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ETHNO-MUSICOOLOGY

A study of its nature, its problems, methods and representative personalities to which is added a bibliography

by

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Second enlarged edition of 'Musicologica'

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PREFACE TO THE FIRST EDITION

This booklet hardly needs a preface; the contents, I think, speak for themselves. It contains a short and carefully brought up to date résumé of all that I, as a private University Lecturer in Amsterdam, have tried to teach my pupils.

It is intended as a general introduction to ethno-musicology, before going on to the study of the forms of separate music-cultures.

I sincerely hope that those, who wish to teach themselves and to qualify in this branch of knowledge, will find a satisfactory basis for self-tuition in the matter here brought together.

Regarding the possibility of a new edition, any critical remarks or information as to possible desiderata would be very gratefully received.

J. K.

PREFACE TO THE SECOND EDITION

My request for critical remarks and desiderata has not been ignored. My sincere thanks to all who took the trouble to let me know what they missed in my booklet. Through their collaboration the contents have undergone a considerable improvement and enlargement as compared to the original edition issued in 1950 by the Royal Tropical Institute, Amsterdam, under the title 'Musicologica'.

I have taken care to add many particulars from non-European sources, with the result that now the book is no longer so Europe-centric as it was.

Furthermore, I have done my best to mention in a special bibliography all the more important ethno-musicological publications, with the exception of those issued in the Russian, Arabic, Chinese, Indonesian, Javanese, Sundanese and Japanese languages and in the languages of the Indian subcontinent. Besides, inserted are only books and articles specialized in the field of ethno-musicology, and not the (numerous) reports and studies on ethnology in general, in which are included some (often important) data.
concerning the music of the peoples treated. Nor are inserted articles containing too many faulty data and those that are quite antiquated or too superficial. Admittedly, often I had to make a rather subjective choice; it has already become an impossibility to give a really complete bibliography. For many more titles I may refer the reader to the lists found in the works marked by an asterisk, especially — for the musics of Asia — to the excellent and comprehensive bibliography by Richard Waterman c.s. (1860) ¹; for Indonesia to 1099, and for Negro Africa to 1822.

Finally, I feel impelled to thank Messrs Martinus Nijhoff for the great care they have given to my booklet and the patience they have shown in regard to my wishes.

Amsterdam, 1st January, 1955. 

J.K.

¹ Figures printed in bold type refer to the publications contained in the bibliography on p. 65 et seq.
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Wer sich selbst und andre kennt,  
Wird auch hier erkennen:  
Orient und Occident  
Sind nicht mehr zu trennen.  

Sinnig zwischen beiden Welten  
Sich zu wiegen, lass' ich gelten;  
Also zwischen Ost und Westen  
Sich bewegen sei's zum besten!  

(Goethe, ‘Epigrammatisch’)
To the question: what is the study-object of comparative musicology, the answer must be: mainly the music and the musical instruments of all non-European peoples, including both the so-called primitive peoples and the civilized Eastern nations. Although this science naturally makes repeated excursions into the field of European music, the latter — especially in its modern art-forms — is, in itself, only an indirect object of its study.

The name of our science is, in fact, not quite characteristic; it does not ‘compare’ any more than any other science. A better name, therefore, is that appearing on the title page of this book: ethno-musicology.

The importance of this, still young, science for our own musical culture is as yet insufficiently realized in wide circles which really ought to be better informed. There is among Westerners an inclination to regard all exotic music, even in its highest forms, as nothing more than either expressions of inferior, more primitive civilizations, or as a kind of musical perversion. It is not sufficiently realized that Western music, after all, is based on older forms which are identical with — or, at any rate, comparable to — those found today outside Europe and ‘European’ America. Neither is it generally understood that, as far as the higher musical forms of expression of the Asiatic civilized nations are concerned, their extremely refined specialization renders them somewhat difficult to grasp for us Westerners, who are equally specialized, but in a different direction. The differences are frequently felt as deficiencies, and strike the hearer more forcibly than the elements which both types of music have in common.

The position, after all, is that each race, each population group has its own manner of musical expression, and this special manner strikes a different race or people, on first acquaintance, as strange. This manner of expression, characteristic of a race or people, is not only bound to its specific psychic structure, but is also physiologically conditioned. The problems which this situation raises constitute a field of investigation par excellence of ethno-musicology. WILHELM HEINITZ (708—726) in his article Musikwissenschaft und Völkerkunde (726), formulated this principle — with real German thoroughness — as follows: ‘In Wirklichkeit kann es eine grundlegende Musikwissenschaft nur geben, wenn man die musikalische Gestaltung ansieht als korrelativ bedingte Transgredation seelisch-körperlicher Bewegungsprozesse, die kategorisch ihr subjectives Gleichgewicht finden in dem funktionellen Bezugssystem biologischer Dynamik’. (i.e.:
Actually, there cannot exist any well-founded musicology unless one regards musical formation as a correlatively conditioned transposition of psychophysiological motorial processes, which categorically find their equilibrium in the organic-functional relative system of biological dynamics. We in the Netherlands have a simpler interpretation of the condition laid down in this pronouncement, namely that 'elk vogeltje zingt zoals het gebekt is', i.e. each bird is known by its song.

Comparative musical science — ethno-musicology — as it has developed as an independent science during the last seventy years, counts only a relatively small number of investigators as its principal exponents. It is usual to regard the British physicist A. J. Ellis as its founder (fig. 1).

Alexander John Ellis — whose original name was Sharpe — was born in 1814. His real subject was phonetics, his main work being Early English Pronunciation with special reference to Shakespeare and Chaucer (1868—1889, in 5 vols.). But it is through his musicological investigations that he still lives in the memory of later generations (450—462). A remarkable fact, when one takes in account that Ellis was known to be totally tone-deaf. ¹

The two works which have remained the best known of his writings are The History of Musical Pitch (1880/’81), very much worth while, but difficult to obtain, and then the work to which he owes the designation ‘Father of ethno-musicology’: Tonometrical Observations on some existing non-harmonic Scales, revised and enlarged a year later, and published, under the title of On the Musical Scales of Various Nations, in the ‘Journal of the Society of Arts’. In 1922, Erich von Hornbostel gave an excellent German translation of it in the first volume of the ‘Sammelbände für vergleichende Musikwissenschaft’ (862).

Ellis, in his treatise — originally an address with demonstrations — gives an account and the results of his tone-measurements, made on a large number of exotic instruments with fixed scales and on string- and wind-instruments tuned by experts, and preceded by a survey of some theoretically known Arabian and Indian scales. He was assisted in his measurings by the musically gifted Alfred James Hipkins (1826—1903) (813—816).

Ellis concludes with a summary of what their investigation taught them, in which he says: ‘The final conclusion is that the Musical Scale is not one, not ‘natural’, nor even founded necessarily on the laws of the constitution of musical sound so beautifully worked out by Helmholtz, but very diverse, very artificial, and very capricious’ (462, p. 526).

¹ On the personality of Ellis see 111.
In more than one respect Ellis and Hipkins did pioneering work with their investigation. Not only because they at last opened the eyes of European musicologists to the fact there could exist, apart from Western scale constructions, other ones built on totally different principles, which, by ears accustomed to them, were experienced as normal and logical, but they were also the first to apply a method of representing intervals which, since then, has found general acceptance, because it offers the Westerner advantages far exceeding all other methods of presentation.

I should like to go into this point in some detail. The pitch of a tone is determined by the number of vibrations, i.e. the number of movements made by some part of the material which is made to sound (string, key, air column, tongue, membrane etc.), during one second: the so-called c.p.s. (= cycles per second) or double vibrations (in French: vibrations doubles (v.d.), in German: hertz (H.)), counting the swing to both sides as a single movement. An interval is expressed by a fraction, of which the vibration figures of the two tones bordering the interval are the numerator and denominator.

In certain cases this fraction will, of course, be a simple one; thus, the octave may be represented by the fraction 2 : 1, the perfect fifth by 3 : 2, the perfect fourth by 4 : 3 — which is to say that the higher tone of each of these pairs forming the intervals has, respectively, 2, 1½ and 1½ times as many vibrations as the lower.

When, however, the vibration figures of two tones have no largest common divisor, the numerator and the denominator remain unsurveyable large numbers. The so-called Pythagorean comma, i.e. the difference between 12 successive leaps of a perfect fifth and 7 octaves, for instance, has to be expressed by the fraction \( \left(\frac{3}{2}\right)^{12} : 2^{7} = \frac{531441}{524288} \), or, which may be easier to grasp, by the decimal fraction 0.0136. Often, it is also impossible, without the aid of intricate computations, to determine which of two intervals is the larger; for instance, the fact that the intervals 799 : 634 and 592 : 470 are equally large, can hardly be realized at first sight.

It has been attempted in different ways to simplify this representation of intervals; in the first place by the use of logarithms. By this method the ratios are reduced to a single figure. This method also removes the complication of the increase of the number of vibrations in respect to the same interval towards the treble (each next-higher octave having twice the number of vibrations of the preceding one).

Although this does, indeed, facilitate the getting of a mental picture of a given ratio, the result is not yet quite satisfying. For, it still remains impossible, to see at a glance what the relation is between a given interval and the tone-distances in common use in European music — which, after all, to Westerners, constitutes the basis of all musical determination of intervals.
For this reason another method was adopted; namely, that of dividing the octave, theoretically, into a large number of very small equal parts, as units in which to express the size of intervals. Thus, for instance, the French physicist Savart (1791–1841), who, because \( \log 2 \) is 0.301(03), proposed a division of the octave in 301 intervals of equal size (called, after him, savart). In the 19th century this interval-representation in savarts has also been accepted by other investigators, but later on it was generally superseded by other systems, among which I may mention one that, for obvious reasons, uses the milli-octave (M.O.) \( \left( \frac{1000}{2} \right) \) as a unit. By applying this M.O.-system it is possible, without further mathematical computations, to form a mental image of, at any rate, some of the most important intervals; as, for example, the tempered tritone of 500 M.O., the tempered major third of 333, and the tempered sléndro-interval of 200 M.O. Other intervals, on the other hand, do not convey much to the mind when expressed in M.O.; which means that we cannot directly compare their size with that of the intervals already known to us; — the fifth, for instance, which is such an important interval, being rendered by the completely meaningless figure 583.

Now it is Ellis' great merit to have proposed and put into practice, in this cents system, a manner of representation that creates the possibility of immediate comparison with all our western scale-steps. For he took — it was the egg of Columbus! — the tempered European semitone as unit of measurement, and divided this into 100 equal parts called cents \( \left( \frac{\sqrt[12]{2}}{2} \right) = 100 \).\)

The expression of intervals in cents is sufficiently accurate, both theoretically and in practice (cf. below p. 18).

The only remaining difficulty is that the conversion of intervals into cents is rather a time-devouring task which, moreover, is not every body's job, as it requires the knowledge and manipulation of logarithmic tables.

A logarithmtable for the conversion of ratios (and therefore of intervals) into cents and vice versa is given by Ellis himself in his treatise, referred to above: On the Musical Scales of Various Nations (p. 487). A description of the same procédé is also to be found in Appendix XX of the second edition (from 1885) of Ellis' translation of Helmholtz' Lehre von den Tonempfindungen (Sensations of tone) (454); in Von Hornbostel's German translation of Ellis' treatise ¹, and, in a slightly different and perhaps clearer form, originating from T. B. W. Spencer, in A. H. Fox Strangways, The Music of Hindostan (560), pp. 115 and 116. In the treatise Vorschläge für die Transkription exotischer Melodien (833), written in collaboration between Otto Abraham (820—823, 827, 833, 869) and Erich von Hornbostel,

¹ 862, p. 8, note 1.
one will find this same kind of table, but in a slightly simplified form.

In the first four publications mentioned, also a second — arithmetical — procedure is given which, besides, is reproduced in Grove's *Dictionary of Music and Musicians*, 3rd ed., vol. II, p. 718a, and in Curt Sachs, *The Rise of Music in the Ancient World, East and West* (1549, p. 28). This second procédé, however, is not so accurate as the other one, apart from its taking more time.

Here follows Ellis' exposition of the two processes:

'If of the two numbers expressing the interval ratio, 3 times the larger is *not* greater than 4 times the smaller, multiply 3,477 by their difference, and divide by their sum to the nearest whole number, adding 1 to the result if over 450. Thus, if the ratio is 4 : 5 (where 3 times 5 the larger number = 15, is less than 4 times the smaller number = 16), the difference is 1, and sum 9, and dividing 3,477 by 9, the result is 386, the cents required.

If the ratio is greater than 3 : 4 and less than 2 : 3, multiply the larger number by 3, and the smaller by 4, proceed as before, and finally add 498 to the result. Thus for 32 : 45, multiply 45 by 3, and 32 by 4, giving 128 : 135, difference 7, sum 263. Then 7 \times 3,477 : 263 gives 92, and 92 + 498 gives 590, the cents required.

Lastly, if the ratio exceeds 2 : 3, multiply the larger number by 2 and the smaller by 3, and proceed as in the first case, adding 702 to the result. Thus for 5 : 8, take 3 \times 5 : 2 \times 8 or 15 : 16; difference 1, sum 31; then 3,477 : 31 = 112, and this added to 702, gives 814, the required number of cents.

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TO CONVERT LOGARITHMS INTO CENTS AND CONVERSILY

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<th>log.</th>
<th>cents</th>
<th>log.</th>
<th>cents</th>
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</tbody>
</table>
This process is sometimes very convenient, but tedious when a large number of results have to be obtained. In this case, those who can use logarithms, will find the preceding table very simple, and it will give the result to one-tenth of a cent.

Subtract the logarithms of the pitch numbers or of the numbers of their ratio. Thus for 32 : 45, log. 45 = 1.65321, log. 32 = 1.50515, difference .14806, the next least log. in the table, .12543, gives 500 C. Subtract this from former log., result .02263, next least .02258, giving 90 C., total 590 C. to the nearest cent as before. We can now, if we wish, go a step farther, and subtracting the two last logs, we get .00005, which in the last column corresponds to .2 C. Final result 590.2 C. It is, as a general rule, unnecessary to go beyond the nearest whole number of cents'.

This second procedé also, though easier to manipulate than the other, remains for non-mathematicians a rather thorny path. Fortunately, ERICH VON HORNBOESTL has obliged the musicological world by once and for all making the necessary computations and combining these in a handy table. Since then there is not one musicologist left who knows how to handle a logarithmic table . . . .

On VON HORNBOESTL's table, the size of all intervals formed by tones between 340 and 809 v.d. may be found at a glance.

I believe that I work in the spirit of VON HORNBOESTL by here reproducing (on p. 133) his table — which has been of such great help to our science, but which has hitherto been concealed in a somewhat inaccessible periodical (861) — together with its author's commentary:

'The reduction of logarithms, even when done with the aid of the familiar tables, suggested by ELLIS, is always a boring and time-devouring affair. The methods described by ELLIS and T. B. W. SPENCER, i.e. the direct conversion of ratio figures into cents without the use of logarithms, are both complicated and inaccurate. It is possible, however, to make the whole business much easier by means of a very simple expedient. This is the computation, once and for all, of the ratios between all integers from \( n \) to \( 2n \), and \( n \) into cents. We shall then find that the cents figure for the ratio between any two numbers \( p : q \) (between \( n \) and \( 2n \)) is equal to the difference between the cents figure for \( p : n \) and \( q : n \), since \( q/n : p/n = q/p \).

The criterion for the choice of \( n \) must be the degree of accuracy needed in the computations, and further the absolute magnitude of the numbers most generally involved. The table attached hereto is intended to serve the need of the acoustic specialist who wishes to determine vibration figures chiefly in the middle register, say, between 400 and 800 v.d., neglecting, as a rule, interval differences of 5 C. in the lower, and 2 C. in the higher part of this register. Numbers outside the range covered by the computation should first be either multiplied or divided (octave transpo-
sition) by 2n; for this reason it was thought desirable to extend the range of the table over more than one octave; it covers — without thereby becoming unwieldy — a minor tenth (2500 C.). 1 The tens of the vibration figures are placed right and left, the units above and below in the margin. Finding the cents figures is simplified by means of group-lines and different letter-types.

Here follow a few examples to illustrate the manner of using the table.

I. CONVERSION OF NUMERICAL RATIOS INTO CENTS

(1) Having measured the vibration figures 435 (a’) and 652 v.d., we wish to find the cents figure (z) for the ratio. For 652 we find in the table 1126 C.; for 435, 426 C.; so 

\[ z = 1126 - 426 = 700 \text{ C.} \quad \text{(tempered fifth).} \]

(2) Given 290.3 : 435, wanted z. The smaller number has to be brought within the range of the table by octave transposition: 2 × 290.3 = 580.6; we then get, instead of the interval wanted, its extension into the octave: 

\[ 1200 - z = 926 - 426 = 500; \quad z = 700 \text{ C.} \quad \text{(The value for 580.6 is found by interpolation). Or, direct:} \]

\[ z = (1200 + 426) - 926 = 700 \text{ C.} \]

(3) What is the cents-number that corresponds to the perfect fifth 2 : 3? Answer: 2 : 3 = 400 : 600; 

\[ z = 983 - 281 = 702 \text{ C.} \]

II. CONVERSION OF CENTS INTO RATIOS

(4) What is the numerical ratio that approximately corresponds to the tempered fifth 700 C.? Answer: 1500 — 700 = 800; 700 C. ~ 540 : 809.

(5) Which tone (n) is the tempered major third (400 C.) of c’ = 256 v.d.? Answer: 256 × 2 = 512; 708 + 400 = 1108; n = 645 : 2 = 322.5 v.d.

(6) By how many vibrations does the perfect major third (386 C.) differ from the tempered one at the beginning of the one-lined octave? Answer: 

\[ 400 - 386 = 14 \text{ C.; } 708 \quad \text{(table value for } c'' = 512 \text{ v.d.)} + 14 = 722; \]

\[ (516 - 512) : 2 = 2 \text{ v.d.} \]

III. TRANSPOSITION

(7) Find the interval 443 : 541 based on 613 v.d. (N.B. All numbers in these problems are prime-numbers). Answer: 804 — 458 = 346 C. (one of the ‘neutrals’ that occur so often in exotic music, i.e. an interval between a major and a minor third); 1020 + 346 = 1366; 443 : 541 = 613 : 749.

(8) Calculate a cycle of fifths of 678 C. (too small by a Pythagorean comma = 22 C.), downwards from the Chinese diapason (pitch-tone) 732 v.d., gathering all the tones within the range of a single octave. To this end we alternately go down 678 C., and upward by 1200 — 678 = 522 C.; 

\[ 1327 - 678 = 649; 649 + 522 = 1171, \text{ etc.; we then get:} \]

732, 494 1/2, 669 v.d., etc.

---

1 The cents-figures are further on printed in italics.
(9) Calculate the Siamese scale of seven equal steps as from 378 v.d.:

\[ \frac{1200}{7} = 171.43 \text{ C.; } 183 + 171.43 = 354.43; \]
\[ 354.43 + 171.43 = 525.86; \]
\[ \ldots, 697.3; 868.7; 1040; 1311.6 \text{ C. Result: 378; 417; 461; 509; 562; 620; 685 v.d.} \]

(10) Enlarge a curve by the ratio 509 : 571. What parameter \( p^a \) does the point \( p^1 = 601 \) get in the new scale? Answer: \( 897 - 698 = 199; \)
\[ 986 + 199 = 1185; \]
\[ p^1 = 674 \frac{1}{2}. \]

In 1939, Prof. R. W. Young has given, in his pamphlet *A table relating Frequency to Cents* (1919), a method of calculation, starting from the equally tempered scale on \( a' = 440 \text{ c.p.s.} \) This table insures great accuracy, but appears to me to be rather difficult for a non-mathematically trained musicologist to manipulate.

Another, very practical method of converting intervals into *cents* and *cents* into intervals, a method that eliminates all cyphering, has, some years ago, been offered and described by Professor M. Reiner of Technical College, Haifa, in his article *The Music Rule* (1447) and by Mrs. Dr. E. Gerson-Kiwi of the Conservatory of Music, Jerusalem, in her treatise *Towards an exact transcription of Tone-relations* (617).

In the last named treatise Mrs. Gerson says:

'A decisive step in this direction (i.e. the direction of avoidance of lengthy and troublesome logarithmic or arithmetic calculations) has recently been done by the construction of a technical device, worked out by M. Reiner (of Technical College, Haifa), and called the 'Music Rule'. Generally, logarithmic calculation can be facilitated by using the slide rule. In a similar way, the Music Rule consists of two separate double-scales the first of which (A—B) confronts the vibration numbers (scale A) in *hertz* with the respective *cent*-numbers (or *ellis*) (scale B) in a way, that any required pitch can be read off directly, without calculation. The second double-scale (C—D) confronts the *ellis*-number (scale C) with the main musical intervals (scale D) (p 135, fig. 52).

The scale A represents the tones \( c' \) — \( c'' \) with frequencies of 264 to 528 *hertz*. Each division on scale A is equivalent to 2 *hertz*, and each division on scale B to 10 *ellis*. (As for other octave ranges one has to multiply or divide the figures of scale A by 2 (or adding or subtracting 1200 on scale B).) Now shift the C-scale against the A-scale, until the base-line of the C-scale is opposite the vibration number of the lower tone of the interval to be measured. Then read directly from the C-scale, opposite the vibration number of the higher tone of the interval to be measured, the size of that interval expressed in *ellis'*. 

— 16 —
Another recent contribution in this field, made by the Hamburg musicologist Heinrich Husmann, excels in that it meets all possible demands of exactness and is especially usable for those unaccustomed to intricate calculations. His publication has been issued under the title Fünf- und siebenstellige Centstafeln zur Berechnung musikalischer Intervalle (924). Finally there is Fritz Bose's system of interval-calculation (186). It closely resembles that of Prof. Reiner, mentioned above.

How is the pitch of a tone measured? For this, some or other measuring instrument is indispensable. However sharp one's musical ear may be; however firmly one may be convinced of the infallibility of one's 'absolute pitch', without a measuring instrument it is impossible to objectivate one's auditory experience more accurately than by recording, say, a' + ; 'between e and f', or, as regards intervals, 'a fourth on the small side', 'fifth-like intervals'; 'about 3/4 of a tone', and so on.

Our organ of hearing, moreover, has an unconscious inclination to 'correct' tones and intervals that do not fit in with our own familiar tonal system, in such a way that they will appear to fit in with it. Hence the mistaken idea on the part of musically gifted, retired officials from Indonesia that the Javanese sléndro scale can be truly played on the five black keys of the piano. In other words: without recourse to a measuring instrument it is absolutely impossible to fathom the nature, the structure of an exotic scale and to communicate it to others.

In the course of time, the sciences of phonetics and musicology have developed and obtained the use of a large number of such measuring instruments. Of these, it may broadly be asserted that their precision is in inverse proportion to their usefulness in 'field work', which after all, demands that the instrument shall be easily transportable, of a simply manipulated construction, and able to stand a certain amount of knocking about. It should further, for preference, not be too expensive to buy and maintain: musicologists do not, as a rule, excel as possessors of earthly riches, and only a very few are privileged to receive adequate financial assistance from scientific institutions or interested private persons.

In a modernly equipped laboratory it is possible to perform tone-measurements with amazing accuracy. The so-called 'electric eye' allows of determinations of pitches down to particles of vibrations. Other instruments are, for instance, tuning forks with adjustable weights that change the pitch as they are shifted, and with a scale-division on the prongs; Appun's tonometer (sequences of reed-pipes); tuning- or pitch-pipes; slide-pipes (i.e. with an air-column of adjustable length) with scale-division (e.g., the Tonvariator of W. Stern, that made by Messrs. Philips, and other types);
the ‘Schwebungstongenerator’ (heterodyne tone generator) of W. Lehmann; Von Hornbostel’s ‘Reisetonometer’ (a small wind instrument with freely vibrating reed, adjustable air-column length and graduation scale indicating pitches). We further know the method followed by E. W. Scripture (enlargement and analysis of gramophone curves) and the so-called ‘soot method’ of Marbe, Metfessel’s method of phonophotography (1311) and the chromatic stroboscope as described by R. W. Young and A. Loomis. Ellis, in his classic investigations, used a — very extensive — series of tuning forks.

My own experience has taught me that, as regards field work, the most satisfactory instrument is the old, well-tried monochord, fitted with a proper graduation scale. This instrument embodies a generally acceptable compromise: (1) fairly great precision; (2) easy transportability; (3) it is practically unbreakable; (4) has good resistance to climatologic influences; (5) is quickly and easily operated, (6) the cost of purchase is small and cost of maintenance nil (fig. 46).

The results obtained with the monochord may in most cases be deemed sufficiently accurate for musicological purposes. Instrumental tone-sequences — such as played, for instance, on the melody-instruments of Javanese, Balinese or Siamese orchestras — show slight internal differences in pitch which are not intended, and, therefore, do not require the use of a more precise measuring-instrument.

Among the sources of errors in measurements such as these, we must mention in the first place the investigator’s organ of hearing, since there are limits to its precision. He bases himself on the sharpness of his musical ear:

(a) when, in tuning the string of the monochord to a calibrated tuning fork, identity of tuning is attempted between a vibrating metal rod and a string; (in this, the difference in tone-quality (timbre) is a disturbing factor);

(b) in equalizing the pitch of the monochord string with that of the tone to be measured (here, too, there is usually difference in both material and timbre).

There are further the following unfavourable factors:

(c) always the relative inaccuracy of the graduation scale attached to the monochord, and

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4 In 'Journal Acoust. Soc. Amer.' X, p. 112 ff. (1938). See about this apparatus also Fritz A. Kuttner (1130) and Milton E. Metfessel (1312).
5 Ellis, 462, p. 486.
(d) sometimes the extra source of error arising as soon as a tone has to be measured which lies outside the register covered by the monochord. For in this case one has to have recourse to the next higher or lower octave; and the equalization of the tone to be measured with its octave on the monochord — as has been proved empirically — cannot be effected with the same precision which can be obtained in equalizing two tones in the same octave-register.

In causing to correspond, first, the tones of the tuning fork and the monochord string, and, later, that of the latter with the sound-source to be measured, attention should be given to the 'beats' which are heard as soon as the two tones approach each other. When the beats have disappeared, equality has been attained. If beats are still audible, their number per second should be estimated as nearly as possible. This number is equal to the difference between the respective numbers of vibration per second of the two tones.

It is further advisable to repeat, if possible, the measurements after some time. It will then be seen that the results slightly differ here and there. One may be better disposed at one time than at another; I have also noticed that the state of the weather (extreme moisture or drought, excessive heat or cold) may influence either the investigator's hearing, the instrument to be measured or the monochord in some way or other; the sources of error mentioned above may make themselves felt, now in this, now in that direction. It is, therefore, advisable, to measure twice, with an interval of some days in between, to add the results of both measurements and divide the sum by 2, or, better still, a third measurement is made with the hope that this will confirm the relative accuracy of one of the two preceding ones.

Ethno-musicology could never have grown into an independent science if the gramophone had not been invented. Only then was it possible to record the musical expressions of foreign races and peoples objectively; it was no longer necessary to make do with notations made by ear on the spot, which notations, however well-intended, usually fell short in every respect — i.e. both rhythmically and as regards pitch. And in addition it now became possible to incorporate interpretation — that extremely important element — into the subject-matter of the investigation.

Truly, it is not only the intervals and the rhythm which, next to the special musical forms, are characteristic of the manifestations of a race. The manner, the style, of performance is at least as important. One must have heard them to realize this to the full extent: the mobile, amazingly fast melos of the pygmies, sung with a high head-voice; the passionately
‘pinched’ vocal sound of the Japanese and Chinese actors; the nasalized melodics of the Indonesian women; the pathos in the vocal rendering of the American Indians; the vital jollity as well as the sonorous seriousness of the Negro singing — one must have heard them to realize to the full the degree to which a race is characterized by its style of interpretation. More and more this is being acknowledged and understood. An important treatise in this special field is Werner Danckert’s Musikwissenschaft und Kultur­kreislehre (326). I would further mention, in the same connexion, Georg Herzog’s article The Yuman Musical Style (736); Von Hornbostel’s review in ‘Baessler Archiv’ (885); Von Hornbostel and Lachmann, Asiatische Parallelen zur Berbermusik (894); Wilhelm Heinitz’ article Die vergleichende Musikwissenschaft als Instrument der Stil- und Rassen­kunde (725); Herbert Hübner’s study Die Musik im Bismarck-archipel (915); Robert Lach, Das Rassenproblem in der vergleichenden Musik­wissenschaft (1149); Marius Schneider’s Geschichte der Mehrstimmigkeit (passim) (1631); by the same author: Die musikalischen Beziehungen zwischen Urkulturen, Altpflanzern und Hirtenvölkern (1640), and par. C. of his contribution Ethnologische Musikforschung (1638), and, finally, Fritz Bose’s Klangstile als Rassenmerkmale (180).

Ethno-musicology derives still more advantages from the invention of the gramophone. The phonographic method made it possible to collect vastly more material in the available — usually awkwardly restricted — time, than formerly, when everything heard had to be noted down then and there — a very troublesome and wearying task. At the same time, too, the strain on the patience of the players and singers was reduced to a minimum. Formerly, whenever the melody to be recorded was very complicated, these people would be asked to repeat it many times over, if possible in bits at a time; a proceeding which, in actual practice, mostly amounted to starting right from the beginning over and over again (since the repetition of a passage in the middle of a piece, as one may imagine, causes considerable difficulty). Now, on the contrary, the players could usually content themselves — and the recorder — with ‘doing their stuff’ once only.

As in the case of tone-measurement, so with the sound-recording there exist a number of different apparatuses, and here, too, the same applied until recently, i.e. that the technically best method proved less useful in practice, owing to the size, weight, fragility and costliness of the apparatus demanded by it.

Until a few years ago, therefore, — at any rate when dealing with a territory where conditions had remained more or less primitive (lacking for instance motor roads and electric current), and especially in difficult mountainous or wooded parts where carriers were the only possible means of transport — the general opinion was that the old-fashioned spring-
driven phonograph with wax-cylinders, recorder and reproducer, such as the 'Edison-Amberola' and the 'Excelsior', was the proper instrument for this purpose.

This situation has undergone a change since the second world war. Various electromagnetic systems, by which the pieces are recorded on metal wire or on a metallized paper or plastic strip or band (called 'coated tape'), have summarily caused all other recording methods to become antiquated. For a survey of the various systems in existence, including the most recent, I refer the reader to Sir ERNEST FISK's Lecture to the Royal Society of Arts, London, on January 16th, 1949 and to S. J. BEGUN, Magnetic Recording. The new apparatuses not only enable us to obtain an infinitely better rendering — hardly, if at all, inferior to the original performance —; they also allow of uninterrupted recording lasting, if desired, as long as 72 minutes; their manipulation is simple; they are readily transportable and not very vulnerable or fragile, and, last not least, their purchase price, although higher than that of the phonograph or gramophone, is not an unsurmountable obstacle, whereas their cost of maintenance is even less. The only thing most of them require is the presence of a powersource. If there is no local electric network to which the recording apparatus (which also reproduces the sound) can be connected, one has to have a transportable power source at one's disposal.

However, recently several new types of tape recorders have appeared, especially suited for research in areas without electric power. This type of recorder, made both in the United States and in Germany and Switzerland, is powered by dry cell batteries (for the microphone) and has a mechanical drive. The weight and the bulk have been reduced seizably. According to reports this new type is greatly facilitating field recording.

For the spoken word, the wire- and tape-recordings are equally satisfactory; for the recording of music it appears that a tape-apparatus is preferable; since newer and better instruments are constantly being put on the market, it is, however, impossible to give a decisive judgment of the relative merits of these processes at this juncture.

Now whatever apparatus the field worker may have at his disposal, one thing is certain: on arriving in the locality of his researches, he will often find himself faced with a certain diffidence and even suspicion on the part of the population. He will not always find someone who is immediately eager or even prepared to play or sing to the visiting stranger with his mysterious-looking instruments. The general — quite understandable — tendency is 'to wait for the cat to jump'.

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2 New York/Toronto, 1951.
All the same, my experience is that it is not so difficult to get the people to sing, or dance, unless abnormal circumstances — such as, in North-Nias, the fear of the Christian mission's hostility to the ancient folk-song and -dance — have gained the upper hand over the people's natural curiosity and willingness to perform. The well-tried recipe: first to perform a tune oneself, say, a European folk-song or a piece on the violin, or to execute a Western folk-dance, has often worked wonders among the Indonesian peoples in whose midst I have made my investigations. They didn't like to be left behind; they, too, wanted to let you hear or show you something of their own — and this the sooner, once they found that every performance was followed by some little reward.

As regard these rewards: a systematic record of the preference on the part of a given population group for certain particular objects would be most useful. The old Dutchmen — crafty traders as they were — realized the desirability of this policy right from the start, and acted accordingly. The Corte Verclaeringhe per Cornelis de Houtman van de Landen ghenaemt Oost Indien ofte Conquisten van Portugal — the report of a study trip to Portugal in preparation of 'D'Eerste Schipvaert' of 1595—'97 — already contains a lengthy list of articles which, from Portuguese experience, were readily accepted by the peoples of the Archipelago in exchange for their products 1.

For those who contemplate making a study trip to Nias or to Flores, the following suggestions may prove useful.

I found that, in Nias, the people were most impressed by necklaces of 'gold' beads (which were made of coloured glass); the red coral necklaces, which, in my eyes, were much prettier, found but scant favour there; and neither did flashlights, unless they were longer than two batteries. In Flores, on the contrary, they sniffed at the 'golden' beads, whereas the red corals were all the rage. They also fell violently in love with a rather complicated type of pocket-knife, while the smaller flashlights were also much in favor. Tobacco, in the form of lumps of chewing tobacco, and cigarettes, as well as chocolate drops and sweet biscuits, proved a universally appreciated reward; I could not bring a sufficient store of these to satisfy all demands. In South-Nias, the 'Bensdorp' flat round chocolate drops were at first taken to be some sort of money, as they were wrapped in silver paper.

A most important factor for the success of a musicological expedition is: some knowledge of the language current in the territory of your investigation; see that you know a number of words and expressions that

1 Vide J. C. M. Warnsinck, De wetenschappelijke voorbereiding van onze eerste schipvaart naar Oost-Indië (inaugural address), 1936, p. 9.

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you will need in order to get a person to sing at the right moment and in the right way, or that will be helpful in establishing an emotional contact with the person you are talking to. In Nias, for example, a set of fourteen terms have helped me through many difficulties and smoothed my way towards obtaining the goodwill of the population. I was able to say 'yes' (la'au) and 'no' (lō'o); express thanks (sauhagolō); welcome somebody (ya'ugō; literally: ('is that) you?') and say good-day (yahō); express my admiration for a fine song- or dance-performance (sōchi-sōchi = 'fine, fine!'), and my affection by a friendly tap on the shoulder while pronouncing the word sifahuhu (= 'friend'). Singing into the horn of the phonograph was directed by the words lōna ('not yet'), taborogo ('start'), honogō ('stop, silence'), alio ('quick'), balo'i (North Nias) or besé'o (Central Nias) (= 'wait a moment'), ē bua 0 liu ('louder!'); while I was able to express sympathy with the experimental persons at the end of the singing or dancing, by asking in kind, thoughtful tones: ćrégē ćōdō? or marasē?, meaning 'are you tired now?'.

For the rest: a little tactful handling, a lot of patience, a smile at the right moment, the feeling whether the subject's initial shyness is beginning to give way to some sort of confidence, and whether the psychological moment has arrived to show a little generosity; to observe when the experimental persons are getting tired and in consequence a little irritable or easily distracted — in short, intuition and tact, one either has them or has them not, but they are indispensable if satisfactory results are to be obtained.

The first phonograms of exotic music to benefit our science were made by Dr. Walter Fewkes in 1889, from the singing of the Panamaquddy- and Zuñi-Indians. These records were passed on for analysis and elaboration to Dr. B. I. Gilman of Harvard University, and this led to the publication of his study Zuñi Melodies (625), which paper has served as example to many later treatises based on phonographic material.

Once the importance and necessity of phonographic recording was generally realized, many larger and smaller phonogram-archives came into being; the oldest established being in the U.S.A. Some American universities now have extensive collections. The American stock of phonograms was estimated in 1933 at about 17,000 different records, including Honolulu. The majority of these are recordings of American Indian vocal music, and are mostly, as far as I know, on cylinders. ¹

Since then the extremely important and rapidly growing collection of records of the Library of Congress, Washington D.C., the majority of which were recorded by means of the most modern apparatuses, have

been added to these as well as the splendid collection, brought together by George Herzog, formerly of Columbia University, New York, and afterwards transferred by him to the Music Department of the University of Indiana, Bloomington (Ind.), where he is teaching now.

This material has been gathered, studied and still is studied by a number of meritorious ethno-musicologists. I already mentioned the names of Fewkes, Gilman and Georg Herzog (736–759). Next to them worked Frances Densmore (362–413), Helen H. Roberts (1469–1488), Edward Sapir (1582, 1583), Frederick R. Burton (250), Charles K. Wead (1862–1864), Rose Brandel (201), Gertrude P. Kurath (537, 538, 1118–11241), Willard Rhodes (1457, 1458), Alan P. Merriam (1305–1309), David McAllester (1283–1284b), E. R. Clark (293), Richard A. Waterman (1866, 1861) and many others. After 1933 American ethno-musicology received a fresh impetus when, owing to the rise of Nationalism in Germany, Sachs (851, 1511–1556), Von Hornbostel (820–899) and Bukofzer (238–241) came to the United States and were called to university chairs. In 1952 Mantle L. Hood, from the University of California, Los Angeles, came to Europe and specialized in Indonesian music (817).

French Canada, also, boasts a large and excellent collection of phonograms of French-Canadian, English-Canadian and (more than 2600) Canadian-Indian folksongs, brought together by M. Marius Barbeau (102–110, 599) and housed in the National Museum of Canada at Ottawa.

As far as Europe is concerned, the best known and most important collections were found in Vienna and Berlin. Of these two, the Viennese one — the property of the Academy of Sciences — is the older. Its establishment dates from about 1900; apart from a few thousand speech- and language-phonograms, it contained, in 1933, about 1500 music records. 1 The Academy issued many ethno-musicological studies, based on its phonogram collection. Of those I may mention the publications by Exner and Pöch (490), Trebitsch (1797–1799), Felber (533–536), Van Oost (1379–1382), Murko (1333, 1334), Biro (155), Idelsohn (932), Lach (1137–1139, 1157, 1158, 1160–1163, 1171), Nadel (1346, 1350), Graf (652), Jansky (950) and Trubetskov (1805).

The Berlin archives — which were destroyed or, at least, dispersed without the slightest chance of getting them together again 2, during the second world war — were much larger. They were established in 1902, at the instigation of the great physiologist and psychologist Carl Stumpf,

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1 Ibid., p. 15.
2 Dr. Emsheimer told me that four crates with about 1300 cylinders have been recovered; the rest, packed in 20 crates, the Russians took with them and, therefore, it is lost for Western science. — See also Kurt Reinhard (1459).
and were at first — until 1932 — housed in the Psychological Institute of the University of Berlin, and later in the Staatliche Hochschule für Musik; after 1933 they have been incorporated with the collections of the Museum für Völkerkunde ¹.

STUMPF, as far as his musicological work is concerned, lives on in the grateful remembrance of ethno-musicologists not only on account of having founded this richest and best organized of all European phonogram archives, but also as the man who, in collaboration with Dr. OTTO ABRAHAM (820—823, 827, 833, 869), made the first musicological phonographic records in Germany (from the music of the Siamese court-orchestra which was performing in Berlin at the time), and also as the author of that masterly treatise *Tonsystem und Musik der Siamesen* (1744), of a larger work, *Anfänge der Musik* (1749), and a number of other publications (1732—1751).

However, the extraordinary growth of the Berlin phonographic archives is not so much due to STUMPF’S work, but rather to that of his pupil and younger friend ERICH M. VON HORNBOSTEL — *facile princeps* among all those who, up to the present, have made ethno-musicology the chosen subject of their study. Under his direction the phonographic collection grew rapidly, until, in 1933, when VON HORNBOSTEL left Berlin, it comprised no less than 10.000 records.

VON HORNBOSTEL — at first with the co-operation of Dr. OTTO ABRAHAM, later alone — published a series of brilliant studies, based on the analysis and transcription of the phonograms acquired by the Berlin Archives, and dealing with the musical expressions of peoples from all parts of the world (820—899, 1183, 1184, see also 1074). Unfortunately these studies are scattered over countless periodicals and accounts of travels, often difficult to obtain. The author never got as far as publishing that part of his life’s work in a single volume of ‘Collected Musicological Essays’; only his articles dating from before 1908 may be found together in the first volume of the ‘Sämmelbände für vergleichende Musikwissenschaft’. But a typed edition, in six copies, of his ‘Opera Omnia’ is at present in preparation at the Royal Tropical Institute, Amsterdam.

The marvellous clarity of mind and wellnigh infallible intuition with which VON HORNBOSTEL penetrated into the — at the time practically virgin — field of exotic musical cultures will rarely be equalled. He was for all of us a shining example and unattainable ideal.

The remarkable thing is that his greatest service to the science of ethno-

¹ Since 1948 some young musicologists, in the first place KURT REINHARD (1448—1452) and HANS HEINZ DRÄGER (433, 434), try to revive this Berlin centre by lecturing at the recently founded ‘Freie Universität’ and rebuilding the phonogram-archives.
musicology was probably the fact that he put forward a theory which — if later investigators (Manfred F. Bukofzer 239, 240, 242) and Kathleen Schlesinger 1625), who have attempted to disapprove it, though with, in my opinion, unsufficient arguments) are right — might be untenable, but which, at any rate, succeeded in bringing clarity into certain very thorny problems in connexion with the structure of, and possible relationship between, instrumental scales of different peoples living remote from each other, and of both former and present times. I am of course referring to Von Hornbostel's famous hypothesis of the cycle of blown fifths, which the reader no doubt knows by name. For the content of this hypothesis, and the criticism levelled at it, I may refer those interested to my brochure Around Von Hornbostel's theory of the cycle of blown fifths 1094) and to the articles by Handschin 684) and Lloyd 1228).

Von Hornbostel trained a number of talented pupils, several of whom worked for some years as his assistants. I would mention Georg Herzog 736—759), now a prominent authority on North American Indian Music and attached to the University of Indiana, Bloomington (as an anthropologist), and the late Robert Lachmann 1173—1189, 1951, 1952) who specialized in the Japanese Noh- and the Arab and Berber music, and to whom we owe one of the cleverest and best-written ethno-musical publications, i.e. Musik des Orients 1179). There is further Walter Wiora, author of several elaborate and dependable essays on Central European folk-music 1890—1903, 1972); Hans Hickmann, an authority in the field of Egyptian and North African music 761—812); Marius Schneider 1279, 1631—1661b, 1964, 1965); Heinrich Husmann 921—927, 1947, 1948). Further, Mieczyslaw Kolinski 1031—1034b) may be reckoned among Von Horbonstel's pupils, as well as Fritz Bose 172—190 and 1929).

But his sphere of influence didn't and doesn't confine itself to his direct pupils. Among those who have been inspired by his personality and publications I may mention, for instance, Heinrich Simbriger 1683, 1684), Manfred F. Bukofzer 238—242), Siegfried Nadel 1345—1351), and myself 1060—1117).

Von Hornbostel confined himself chiefly to 'home-work'. Most of his 'field-work' was done in the beginning of his career, among the Pawnee Indians. It is probable that his physique would not have stood the strain of much field-work. In other ways, however, he possessed all the necessary qualities for it, especially tact and intuition, and it is indeed to be regretted that circumstances finally forced him to work mainly at home. This was a pity — in the first place for himself. For it is precisely the variation between the two so diametrically opposed operations, in the field and in the study, which can make the life of an ethno-musicologist so rich and so eminently
worth living. The man to whose lot it falls to be permitted the study of our science from both angles, may, indeed, consider himself lucky. He lives a 'double life' in the right sense of the word; on the one hand a life of adventure: enjoying contact with strange peoples, experiencing the enchantment of penetrating into less known regions; on the other hand his scientific and esthetic inclinations find satisfaction in thorough, far-reaching analysis of the material collected, which, moreover, is so much more alive for him, having gathered it himself, than for others who receive the records, musical instruments and comments by mail or investigate them in a museum.

However, experience teaches us that the position is often different in that the two aspects of ethno-musicological investigation must necessarily be kept apart. A. H. Fox STRANGWAYS (559—565a, 1189) the author of *Music of Hindostan* (560) — that work beyond praise — in an opening article entitled *East and West* in the first volume of the 'Zeitschrift für vergleichende Musikwissenschaft', gave the following qualification of the two categories of ethno-musicologists: 'The workers are in two classes. There are those who have the health, energy and personality, provided they have the time and the means, to go and collect material. It is hard to say which of these is the most important, but the right personality is the rarest. Without the willing co-operation of the singers and dancers they will do little, and that willingness is only to be bought with unfeigned sympathy, inexhaustible curiosity, lively gratitude, untiring patience and a scrupulous conscience. It is easy to fake a tune till it fits a theory. It is easy to be content with a dozen specimens, and not to plough on and get the thirteenth which would have been worth them all. It is easy to think that it is we who confer the honour by collecting and recording, until a singer says, as she said to me, that she is not going to deliver her soul to a piece of wax which may get broken in the train.

And there are those who sit at home and shift and sort. Material comes in from diverse places and very various minds. How much credence are we to attach to each? How are we to fill the lacunae? How reconcile contradictions? What advice is to be given to young collectors? The bare facts are not of much use without the ideas on which to string them, and the natural enthusiasm of the collector benefits by being set in the proper proportions'.

Apart from the American and German phonogram-archives we should also briefly mention the French ones. Extensive collections of ethno-musicological records are in the possession of various organizations, particularly the 'Société d'Anthropologie', the 'Musée de l'Homme', the 'Bibliothèque musicale du Musée de la Parole et du Musée Guimet' and the
'Phonothèque Nationale'. ¹ They are chiefly on discs, i.e. made according to the gramophone process invented by BERLINER, in which the recorder does not, as in the case of the EDISON phonograph, move vertically, cutting deeper and less deep cuts into the sensitive wax cylinder, but is moved in a horizontal plane on a circular wax plate. (The Viennese archives, until recently, employed an intermediate form between phonograph and gramophone: with the former it had the variable depths of groove in common, with the latter the wax plates).

In Budapest there is the large collection of phonograms chiefly consisting of Hungarian and Rumanian folk music; it comprises over 30,000 records, collected for the greater part by the late BÉLA BARTÓK (113—129a) in collaboration with ZOLTÁN KODÁLY (130).

The Musicological Institute at Stockholm (director: Dr. ERNST EMSHEIMER) (469—477, 1943), also possesses a collection of discs containing, among others, a series of valuable Mongolian and Caucasian records, whilst the Archives of Dialect and Folklore, Uppsala, contain a large collection of records of all Swedish provinces, including Lappland.

Further the phonogram archives of Leningrad must be mentioned, containing, it appears, mainly records of the music of the peoples living inside the borders of the Soviet Union. The scientific output of the Russian ethnomusicologists since the war is considerable. Because of their publications being written only in the Russian language and apparently not available for investigators at this side of the iron curtain, they have not been included in the bibliography on p. 65 ff. Many of them, however, one can find in the bibliography of Asiatic musics by WATERMAN c.s. in 'Notes' (1860).

At the time of writing everything seems to point to the probability that the central position taken up by the Berlin phonogram archives until the second world war, will in future be occupied by the 'Archives internationales de musique populaire', established at Geneva under the auspices of the UNESCO and the CIATP (= Commission Internationale des Arts et Traditions Populaires). This institution is under the direction of Professor CONSTANTIN BRAILOIU (195—200), formerly co-worker of BÉLA BARTÓK, and, next to KODÁLY, the authority in the field of Rumanian and other East European musical folklore.

On reading an enumeration of the contents of the phonogram archives, ² many will have wondered whether the large gramophone companies have

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¹ In 1952 Unesco published a catalogue of the collection of the last named institute (52). It contains no less than 4564 numbers. In the same year appeared, under the auspices of the Ciap, SIMONE ROCHE'S Catalogue of the collection of the Musée de l'Homme (14904).

not made very considerable contributions towards the work of recording what is still alive and being played in the way of exotic music. The answer to this question, it must be said, is rather disappointing; these companies, being run as they are on a purely commercial basis, have not rendered so much service to ethno-musicology as could be expected. The reason for this is threefold:

(a) the records of exotic music, made by them, have been generally only on sale in the country where they were collected and where the music they render comes from;

(b) these companies were prepared to supply copies of the records in question elsewhere on condition only that at least 25 copies are taken simultaneously, a thing which hardly suited the convenience of most musicologists or even museums;

(c) they usually only produced records when they had reason to expect them to be sold in quantities; in other words, they usually pandered completely to the — often regrettable — taste of the larger public and fought shy of the rarer musical expression-forms which are important by virtue of their being ancient, but (possibly for that very reason) no longer generally current, let alone popular. They also avoided, if possible, making records exceeding the limit of one side of a disc. There are but sporadic exceptions: Columbia has recorded Javanese vocal plays (langendrya) at Surakarta in the Mangku Nagaran in their entirety; the Karl Lindström Concern published an album of records, selected and with a commentary by Von Hornbostel, containing examples of Japanese, Chinese, Balinese, Siamese, Javanese, Sundanese, Indian, Persian, Egyptian and Tunesian music. And if the war had not intervened to spoil my own plans, I should have been given opportunity to produce, in collaboration with the Netherlands Indian Radio Omroepmaatschappij (NIROM), 60 large, double-sided records with examples of all the musical scales used in Java and Bali; of the sound produced by, and the manner of playing of, all instruments used by the native musicians in these islands; of all types of orchestras and all forms of compositions.

If the gramophone companies had only heeded the examples mentioned above, they might have rendered inestimable services to the science of ethnomusicology. Now, they will have to hurry: for as fast as the recording processes are being perfected, the musical expressions eligible for reproduction are, under the influence of western civilization and the intensification of world traffic, declining in purity and musical value. In the course of the years much that was once beautiful and remarkable has gone to perdition, without a trace or record remaining. Moreover, instead of giving (or selling) to a scientific institution the matrices of recordings which, after some years, have been deleted from their catalogues (often containing music
that can no longer be found, even by field-workers), these companies usually have destroyed them, and so, also in this way, much irreplaceable material is lost for ever.

The gramophone companies should further always proceed to assure themselves of the cooperation of a specialist who is familiar with the music to be recorded — as Odeon, very luckily, did at the time, in Bali, where the gifted painter-musician WALTER SPIES acted as their advisor. This measure would not only safeguard a correct and varied choice of recordings, but also ensure a greater likelihood of the records turning out truer to reality. To give an example of this latter point: existing records of Javanese gamelan music which include the vocal element often allow the voice to be far too prominent, as if it were a solo with accompaniment, while in reality the solo- and choral voices are nothing more than equivalent elements in an otherwise instrumental tonal texture; in other words, the singers ought not to have been placed right in front of the microphone.

By utilizing the knowledge and advice of a musical specialist it will also be possible to prevent the titles on the records from containing such an annoyingly large number of spelling mistakes.

Fortunately, in this regard also, the last years have shown a tangible improvement. We have already mentioned the widely known album 'Musik des Orients', issued by the Carl Lindström Concern, Berlin. ERICH VON HORNBOSTEL chose for it from among the records, published in previous years (more for commercial, rather than musicological purposes) by Odeon and Parlophon.

After World War II, however, there resulted, in the nick of time, from the fertile collaboration of ethno-musicologists with gramophone- or broadcasting-companies a number of splendid collections. Of those I will cite the following:

a) issued by the Folkways Records and Service Corporation, 117 West 46th Street, New York 36 (N.Y.):

P. 401. Music of the Sioux and the Navajo (recording and notes by WILLARD RHODES);

P. 402. Music of Equatorial Africa (tribes: Baduma, N’Goundi, Okandi, Mboko, Kukuya, Yaswa, Bongili, Baya, Kuyu) (rec. ANDRÉ DIDIER; notes: GILBERT ROUGET);

P. 403. Drums of Haiti (rec. and notes: HAROLD COURLANDER);

P. 404. Folk and traditional music of Turkey (notes: TARIK BULUT);

P. 405. Folk music of Ethiopia (and Erithrea) (instr.: begenna (harp), icherawata (fiddle), m’billa (flute), masonquo (lyre) and drum) (rec. and notes: HAROLD COURLANDER);

P. 406. Music of Indonesia (Java, Minangkabau, Batak, Bali, Malaya) (notes: R. SUWANTO);
P. 407. Folk music of Haiti (rec. and notes: HAROLD COURLANDER);
P. 408. Folk music of Palestine (Bokhara, Palestine, Yemen, Persia) (rec. Dept. of Folk music Anthrop. Inst. of Israel; notes: RAPHAEL PATAI and MIECZYSŁAW KOLINSKI);
P. 409. Folk music of India (Punjab, Bengal, Rajastan, South India) (instr.: israj, sitar, flute, gopijantra, dholak, sarangi, pakavaj, kartal, vani, mrdangga, shahnai, tabla, baya, tappu) (notes: HAROLD COURLANDER);
P. 410. Cult music of Cuba (Lucumi, Abakwa, Kimbisa, Djuka, Arara) (rec. and notes: HAROLD COURLANDER);
P. 411. Music of Spain (Navarre, Galicia, Asturias, Catalonia, Majorca) (notes: EMILIO DE TORRE);
P. 413. Indian music of Mexico (Yaqui, Seri, Huichol, Cora, Tzotzil) (rec. HENRIETTA YURCHENCO; notes: GORDON F. EKHOLOM and HENRIETTA YURCHENCO);
P. 414. Folk music of France (Berry, Normandy, Provence, Orleans, Bretagne, Vendée, Anjou, Corsica, Angoulême) (instr.: hurdy-gurdy, tamburine, flute, bagpipe) (notes: PAUL ARMA);
P. 415. Music of Peru (Aymara, Quechua, Mestizos) (notes: HARRY TSCHOPIK);
P. 416. Music of the Russian Middle East (Azerbaijan, Armenia, Uzbekistan) (notes: HENRY COWELL);
P. 417. Negro Folk music of Alabama. I. secular (rec. and notes: HAROLD COURLANDER);
P. 418. Negro Folk music of Alabama. II. religious (rec. and notes: HAROLD COURLANDER);
P. 419. Folk music of Rumania (rec. BÉLA BARTÓK; notes: HENRY COWELL);
P. 420. Music of the American Indians of the Southwest (Navajo, Zuñi, Hopi, San Ildefonso, Taos, Western Apache, Yuma, Papago, Walapai, Havasupai) (rec. and notes: WILLARD RHODES);
P. 421. Music of South Arabia (Bedouin, Yemenite Jews) (rec. and notes: WOLF LESLAU);
P. 422. Traditional and classical music of India (instr.: dholak, tabla, sitar, sarinda, algoza, tambura, gharghar) (notes: HAROLD COURLANDER);
P. 423. Music of Southeast Asia (Thailand, Viet Nam, Laos, Cambodia, Burma, Malaya) (notes: HENRY COWELL);
P. 424. Folk and classical music of Korea (notes: KYUNG HO PARK);
P. 425. Folk music of Pakistan (rec. Government of Pakistan);
P. 426. Spanish and Mexican Music of New Mexico (rec. and notes: J. D. ROBB);
P. 427. Folk Music of the Western Congo (rec. and notes: Leo A. Verwilghen);
P. 428. Songs of the Watutsi (rec. and notes: Leo A. Verwilghen);
P. 429. Folk music of Japan (instr.: a.o. samisen, koto, surigane) (rec. and notes: Edward Norbeck);
P. 430. Songs and Pipes of the Hebrides (rec. and notes: Polly Hitchcock);
P. 431. Religious music of India (instr. a.o. ghungarus, karañali) (rec. and notes: Alain Daniélou);
P. 432. Songs and dances of Haiti (rec. and notes: Harold Courlander);
P. 433. Maori songs of New Zealand (rec. by the New Zealand Broadcasting Service; notes: Ulric Williams);
P. 434. Folk music of Yugoslavia (rec. and notes: Laura Bolton);
P. 435. The Black Caribs of Honduras (rec. by Peter Kite Smith; notes: Doris Stone);
P. 436. Burmese folk and traditional music (instr. a.o. patt waing, maung saing, saung, pattala, kim si dow; shwe-bo, de butt, o zi) (notes: Maung Than Myint);
P. 439. Tribal music of Australia (Arnhemland) (instr.: didjeridu) (rec. and notes: A. P. Elkin);
P. 440. Religious songs and drums in the Bahamas (rec. and notes: Marshall W. Stearns);
P. 441. Drums of the Yoruba of Nigeria (instr. a.o. dundun, gungan, igbin, kanango, kerikeri, gudugudu, bata, shekere) (rec. and notes: William Bascom);
P. 442. Music of the Falashas (rec. by Wolf Leslau);
P. 443. Music of the Ukraine (instr. a.o. duda (bagpipe), balalaïka) (notes: Henry Cowell);
P. 445. Songs and dances of the Flathead Indians (rec. by Alan P. and Barbara W. Merriam; notes: Alan P. Merriam);
P. 448. Folk music of the Amami islands (instr.: a.o. jyabisen (primitive shamisen) (rec. and notes: Douglas G. Haring);
P. 449. Japanese Buddhist rituals (rec. and notes: Douglas G. Haring);
P. 500. Negro folk music of Africa and America (rec. by Melville J. and Frances Herskovits, André Didier, Harold Courlander, Wolf Leslau, Emma Courlander, Ricardo E. Alegria, Odeon, Singer and Fuentes) (notes: Harold Courlander);
P. 501. Folk music of the Mediterranean (Algeria, Sardinia, Albania, Syria, France, Egypt, Morocco, Italy, Tunis, Greece, Turkey,
Spain, Serbia, Libya and Palestine) (selection and notes by Henry Cowell);

P. 502. African and Afro-American drums (Watusi, Baya, Yoruba, Bambala, Mahafaly, Haiti, Virgin islands, Puerto Rico, Jamaica, Cuba, Bahamas, Surinam, Brazil, U.S.A.) (notes: Harold Courlander);

P. 504. Music of the world’s peoples (Madagascar, Caucasus, Greece, Japan, Nigeria, India, Russia, U.S.A., Ireland, France, Bali, Arabia, Tahiti, Tibet, Iceland and Spain) (instr. a.o. harp, koto, sho, sanai, esrai, jalatarang) (selection and notes by Henry Cowell);

P. 505. Music of the world’s peoples, vol. II (Serbia, Iran, Albania, China, Congo, Finland, French Canada, Ukraine, Chile, Italy, Kashmir, Australia, Cuba, Azerbaijan, Palestine Jews, Sioux) (selection and notes by Henry Cowell);

P. 1000. Hungarian folk songs (instr. a.o. bagpipe) (rec. Bela Bartok; notes: Henry Cowell);

P. 1008. Songs and dances of Norway (instr. a.o. Hardanger fiddle, langeleik) (rec. by Norwegian Performing Rights Soc.; notes: O. M. Sandvik);

P. 444. The Eskimos of Hudson Bay and Alaska (rec. by Laura Bolton; notes by id. and Henry Cowell);

P. 446. Indians of the Matto Grosso;

P. 447. Folk music of South Asia (Nepal, Pakistan, Kashmir, India);

P. 450. Music of Cape Breton island;

P. 451. Music of the Bulu of Cameroun (rec. and notes by Edward Couzens);

P. 452. Children’s music around the world;

P. 453. Tribal music of Ethiopia;

P. 454. Folk music of Greece;

P. 455. Music of the Yoruba of Nigeria;

P. 456. Music of Bali;

P. 457. Greek epics and ballads;

P. 458. Indian music of the Upper Amazone (rec. by Harry Tschopik; notes by id. and Willard Rhodes);

P. 459. American Indians of the Northeast;

P. 460. Temiar Dream songs of Malaya;


b) issued by the Malaya Broadcasting Corporation:

a collection of music from the Plé-Témiar, a small tribe of forest-
nomads in Pérak (recorded by the Protector of Aborigines, the late H. D. NOONE);

c) issued by the 'Boîte à Musique', Paris:
a series of Central-African music, recorded by the Ogowe-Congo Mission (Messrs. A. DIDIER and GILBERT ROUGET) (regions: Middle-Congo, Gabon, Ogowe Upper-Volta, as well Negro- as Pygmy-music; instruments a.o. sanza, musical bow, harp-zither, drums, trumpets, marimba);

d) recorded and edited by ARTHUR S. ALBERTS: Tribal, Folk and Café Music of West Africa (3 albums) with text and commentaries by MELVILLE J. HERSKOVITS, DUNCAN EMRICH, RICHARD A. WATERMAN and MARSHALL W. STEARNS (Field Recordings, New York, 1950);

e) issued by the World Collection of Recorded Folk Music (editor: Prof. CONSTANTIN BRAILOIU) in collaboration with Unesco: two albums with music resp. from: the Haussa, German Switzerland, Scotland, Rumania, Italia, Caribou Esquimo's, France, Serbia, the Spanish Jews, and Greece;

f) issued by the Philips Concern: Begdja, the Gamelan Boy (a Story of the Isle of Java, written and told by JAAP KUNST, with musical illustrations by the Study Group for Gamelan Music 'Babar Layar') (N. 00165 L);

g) issued by the American Columbia under the general editorship of ALAN LOMAX: an album 'Indonesia', containing music of East- and West-New Guinea, the Aru-islands, Babar, Manuwoko, Kai, Banda, Ambon, Bali, Borneo (Dyak) and Java; and several other albums, among which one containing African Music from the French colonies edited by ANDRÉ SCHAEFFNER and GILBERT ROUGET;
one with Aboriginal Songs from Australia and Eastern New Guinea, recorded by A. P. ELKIN and A. P. DUPEYRAT and edited by A. P. ELKIN;
one with Venezuelan Folk Songs, edited by JUAN LISCANA and also containing Orinoco Indian material taken by PIERRE GAISSEAU;
one with African Music from the British colonies, recorded and edited by HUGH T. TRACEY;
one with Folk Music from Japan, the Ryu-kyus, Formosa and Korea, recorded and edited by GENJIRO MASU;
one with Indian Folk Music, recorded and edited by ALAIN DANIÉLOU;

h) issued by 'Contrepoint': a splendid L. P. record, made by GILBERT ROUGET with the aid of JEAN KOROMA, of the music of the Malinké and the Baoulé tribes, Upper Guinea, French West Africa (No. M.C. 20.045);

i) issued by Elektra, Stratford: Voices of Haiti (L.P. Ekl 5), recorded by MAYA DEREN.

j) issued by the English Decca: a series of 8 L.P. records, collected by HUGH T. TRACEY:
LF. 1084. Songs and instrumental music of Tanganyika (tribes: Nyamwezi, Hehe, Haya; instruments a.o. *sanza*, *ligombo* (zither), *nanga* (trough zither), *enkoito* drums);

LF. 1120. The drums of East Africa (tribes: Nyamwezi, Nyoro/Haya, Ganda, (Wa)tu(t)si; instruments a.o. *enkoito* drums, *entenga* drums);


LF. 1169. Talking and Royal Tutsi (Watusi) drums; (tribes: Tutsi, Lokele);

LF. 1170. The guitars of Africa (tribes: Swahili, Zulu/Nde-ele, Nubi, Luo, Luba/Sanga, Ngala);


LF. 1172. Congo songs and dances (tribes: Genya, Tutsi, Zande, Luba, Bobwa, Buudu, Yogo, Mbuti Pygmies, Batwa, Zande/Bandiya; instruments a.o. *chizanshi* (xylophone), *lisanzo* (id.), drums, rattles, flutes, *kponingbo* (xylophone));


Issued by the Reeves Sound Studios Inc., New York:

6 records of African music, made by the Denis/Roosevelt African Expedition (tribes: Man(g)betu, Babira, Bapere, Mbuti, Batwa, Watu(t)si, Bahutu; instruments a.o. the Royal Watusi drums, trumpets, xylophone).

Also a number of scientific institutions have, during the past few years, issued some collections of exotic records. So, for instance, the Musée de l'Homme, to which the musicological world owes the publication, first of a large series of Malgassian music (recorded by the Clerisse mission); then, at the end of 1949 another, still larger one, containing music, instrumental and vocal, of Negro- and Pygme-tribes from French Central Africa, recorded by Mr. A. Didier during the Ogoué-Congo Mission (1946); in 1950 an album of Rumanian folk music, recorded by Constantin Brailoiu; in 1952 an album of African music, this time especially from the Hoggar (Tuareg and Arabian); in 1953 an album with music of the Upper Orinoco (tribes: Guarahibo, Maquiritare, Piaroa and Puinave), recorded by Pierre Gaisseau; notes by Simone Dreyfus-Roche.

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Also the Library of Congress, Washington, caused many collections of exotic music to be made, of which I will mention the records, made of Zuñi and Sioux Songs and Dances (recorded by Charles Hoffmann); of Iroquois songs (vol. VI, recorded by William N. Fenton); of Indian and Negro Folk Music of Venezuela (vol. XV, recorded by Juan Liscano and Charles Seeger); of Seneca Music (vol. XVII, recorded by William N. Fenton); of Brazil (Afro-Bahian Religious Songs) (vol. XVIII, recorded by M. J. Herskovits); of Mexico (vol. XIX, recorded by Henrietta Yurchenco).

This Library has issued a series of L.P. records which were copied from the original recordings on wax-cylinders, made many years ago by Frances Densmore (362—413). These contain some hundreds of songs from different American Indian tribes: vol. XXII (Chippewa), XXIII (Sioux), XXIV (Yuma, Cocopa, Yaqui), XXV (Pawnee and Northern Ute), XXXI (Papago), XXXII (Nootka and Quileute), XXXIII (Menominee, Mandan, and Hidatsa). To each of those volumes is added an excellent commentary written by Frances Densmore herself. This series has been followed in 1954 by another, recorded and with notes by Willard Rhodes, containing American Indian music from the Northwest (Puget Sound) (L 34); Kiowa (L 35), Indian songs of today (L 36), Delaware, Choctaw, Creek and Cherokee (L 37), Great Basin, Paiute, Washo, Ute, Bannock and Shoshone (L 38), Plain-Indians: Comanche, Cheyenne, Kiowa, Caddo, Wichita and Pawnee (L 39), Sioux (L 40), Navaho (L 41), Apache (L 42), Pueblo: Taos, San Ildefonso, Zuñi, Hopi (L 43).

The Kokusai Bunka Shinkokai (= Society for International Cultural Relations), Tokyo, issued in 1949 an album of Japanese music, containing music of all kinds (gagaku, Buddhist chant, noh-music, biwa-, koto-, samisen-music and many folk songs), with notes by Kasho Machida (1242); the Peabody Museum of Harvard University in 1952 an album 'Navajo Creation Chants' (notes by David McAlister) (1284a).

With regard to recordings of Asiatic music I may also refer to the Survey of recordings of Asiatic music in the United States (1861) and the Catalogue of recorded classical and traditional Indian music (341); for South African recordings to the large collection brought together under the auspices of the African Music Research, since 1946, by the Hon. Secretary of the African Music Society, the indefatigable Hugh T. Tracey (8a, 1788—1795a); for Negro music in general to Gay's recent bibliography (603b).

By and by the number of ethnic records has increased in such a way, that it has become almost impossible to mention them in a booklet like this one. Fortunately, they are for the greater part incorporated in the catalogue made for the International Folk Music Society and Unesco by Norman Fraser (571). For the Americas see also Duncan Emrich (468).
The transcription of exotic phonograms is one of the most difficult and intricate tasks which ethno-musicological research has ever put before its devotees. Béla Bartók says about this task: 'Although perfection cannot be attained in transcribing (...) folk music, we must always endeavor to approach an ideal of perfection (...). We should never tire of improving and changing our methods of work in order to accomplish this task as well as is humanly possible' (129a, p. 20). Often, in the beginning, one finds oneself faced with apparently unsurmountable difficulties, inextricable rhythmic constructions, indeterminable tones.

Each individual investigator will invent his own method, manners and expedients. I only recount my own experiences in this field of work, where each is free to surmount the difficulties according to his own personal insight.

It is best, when proceeding to transcribe a phonogram, to start early in the morning; the fresher one feels, the sharper one's hearing, the greater one's patience, and the more subtle one's acoustic imagination. I would remind those who are blessed (or cursed) with 'absolute pitch' that fatigue causes the inner norm of hearing to rise; in other words, that, when one is tired, as at the end of a long day's work, one is inclined to hear everything slightly sharper (up to half a tone) than it sounds in reality.

When transcribing from flat gramophone records, one should, if at all possible, obtain the use of an electric gramophone with a pick-up; this obviates repeated interruption and rewinding of the mechanism, and in addition ensures constancy of speed, and, with that, of pitch.

It needs no stress that the room in which transcription takes place can never be too quiet; the slightest outside sound distracts the ear and the mind; more or less 'musical' sounds even make transcription totally impossible. This is another reason why transcription should preferably be done in the very early morning, when most mortals are still asleep.

The gramophone or phonograph should be placed at one's left hand. Before setting anything on paper — apart from the title of the piece to be transcribed and the number of the phonogram — play the whole record once through, so as to get a general impression of the piece, and to know whether to put a treble- or a bass-clef at the beginning of the stave. (Ultimately, one generally transcribes in the treble-clef as far as possible, if necessary with a note to the effect that everything sounds one octave lower or higher). Another advantage of this preliminary hearing is that it gives one an opportunity to learn something of the tonality, the rhythm and the general structure.

We then start on the actual work of transcription. We first play a few tones — say, a melodic fragment, somewhat rounded-off for preference, of a few seconds length — and endeavor to write this down at the right pitch and in the correct rhythm. We repeat this first attempt a few times, until we are perfectly sure that the transcription approximates melodically
and rhythmically as closely as possible the real thing, after which we take a step forward, also of a few tones, each time again playing the record right from the beginning and taking great pains to check up whether what has already been written down tallies with what one hears. The result will frequently be only an approximation — be it a rather close one — to reality. For, most exotic peoples use tonal sequences and intervals differing from those of us Westerners; and rhythmically, too, they often do things that strike us as incomprehensibly complicated and inimitable. The difficulty in this, moreover, is to know what is essential in what we have heard, and what is due to imperfection of the singer’s voice or the player’s instrumental technique, or his rhythmic feeling. In the case of primitive peoples we may say: the way they perform a piece is the way it is intended; there is usually no standard model, no norm hallowed by tradition; what is played or sung is the emotion, rendered audible, of that particular person at that particular moment; a subsequent performance by the same player or singer of the same piece would turn out different in many respects, because the performer’s emotion at that moment would be different, for instance, experienced either more or less intensely.

However, even apart from this difficulty, there is another, more or less akin to it: how far should the precision of the transcription be allowed to go? It is possible, by applying a mechanical-visual method of sound-registration (e.g., by recording the sound-curves on a rotating cylinder) to carry the exactitude of a transcription to a point where one cannot see the wood for trees, so that the structure of the piece transcribed has got completely out of hand. In my own view, the transcription by ear, in European notation, as nearly exact as possible, combined with the measurement of the actually used intervals is nearly always sufficient for ethno-musicological purposes. In that case, however, it is to be recommended, when publishing the results, to give some sort of account, by way of introduction to, and justification of, the transcription. For this purpose, I myself use the following method. On a set of horizontal lines, each representing the sound-continuum, I place (a) on one of them the tone-points of the European tempered scale (either all, or only those used in the transcription of the piece in question), and (b) on the other(s) the tone-points of the scales actually used by the performers of the piece transcribed. One of the tonal points of each of the respective scales is made equal to the other(s), and, therefore, placed on the same point on both (or, as the case may be, all) lines; and these corresponding tone-points are then connected by a vertical dotted line. From the other tone-points on the lines of the measured scales also vertical dotted lines, intersecting the European scale-line, are either raised or dropped, to show the extent to which the tones — and with those, the intervals — of the piece tran-
scribed deviate from the European tones approximating them in the transcrip-
tion. In addition, the sizes of the intervals are given in cents, and vibration figures of the scale-tones are also added.

The example on p. 134, fig. 49, in which a comparison is drawn between the Javanese pelog- and sléndro- and the European tempered chromatic scale, may clarify this.

Accidental, involuntary deviations in pitch may be indicated in the transcription itself by some mark or other above the notes to which they belong.

Apart from the exact rendering of pitch and rhythm, it may reasonably be expected that a good transcription gives as many indications as possible with regard to the style of interpretation. Experience has shown that the marks used for this purpose in our European notation are inadequate to this end.

This led Otto Abraham and Erich von Hornbostel to the publication of their treatise Vorschläge für die Transkription exotischer Melodien (833).

In spite of this, unification of the transcription is still far from being attained; and so, the CIATP finally convened, in July 1949, a conference of specialists at Geneva, with instructions to effect, if possible, this unification. Naturally the recommendations formulated at this conference possess no legal sanction and cannot be enforced; it remains to be seen whether ethno-musicologists in general will be prepared to avail themselves in future of the transcription-rules recommended by the conference. ¹

The musicologist's skill in transcribing must, of course, have attained a certain level of faithful interpretation if his rendering is to satisfy us. As we said before, practice plays a considerable part. I further believe that having 'absolute pitch' can be a factor of great utility in this work. Its possession, however, is no conditio sine qua non; those who do not enjoy this faculty — and they constitute the majority, also among the musically talented — have generally developed their relative hearing to a far finer pitch than their 'absolute' colleagues, and are able, it seems, to arrive at most acceptable results also by this means.

But for either of them the all-important thing is to have a perfectly open mind as regards the piece to be heard and transcribed. One must be on one's guard against the temptation to presuppose or imagine the presence, in exotic phonograms, of the particular rhythmics and the equality of bar-length typical of most Western music, or of involuntarily hearing the strange melody 'harmonically', i.e. as if it were based on unplayed harmonies.

For the sake of legibility, however, it is advisable to put a bar-line in those places where the rhythm seems to call for one (roughly, always before a prominent accent or 'down-beat'), as well as vertical dotted lines whenever the 'bars' created thereby contain complicated rhythmic formations — in

¹ One will find a summary of the results, attained by this conference, in the CIAP-Information No. 15/16 of Nov./Dec. 1949 and in a brochure, issued by the same institution in 1952 (1376).
order to indicate the more elementary rhythmic units. Greater melodic periods might be closed by a double bar-line.

No doubt one will frequently feel, when tackling the same phonogram some days later, an inclination to distribute the bar-lines differently. The reason for this is the fact that accentuation in the music of many exotic peoples is much weaker than that in Western music; in some cases this accentuation is put into it by the investigator, because we Westerners seem to feel the need of making what is heard more comprehensible by 'phrasing' it in some way or other.

When dealing with vocal records one should also try to get hold of the text. This, especially in the case of the primitives, is anything but easy, unless one masters the native language (as many missionaries do), and so understand the words sung in spite of their being recorded only indistinctly by the phonogram. To ask for the text just sung, after the performance, will generally prove futile; for the texts are very often improvised during the performance itself. This difficulty is not present to the same extent in the case of peoples on a higher cultural level, for in their case one frequently has to do with existing, standardized texts. But even there it is necessary to collate the text with the vocal tune on the spot (that is, if one has been able to put the melody approximately on paper during recording), since the manner in which the words are distributed over the notes usually deviates considerably from the way in which we Westerners would proceed. A correct knowledge of the text will often have influence on the manner in which one thinks the melody should be phrased.

The complexity and arbitrariness of the rhythm of some exotic melodies may be evident from the example on p. 135, fig. 50, which I transcribed some years ago from a phonogram taken in Central Flores. When in addition, the voice moves in intervals deviating from our own Western ones (which was not the case in the district in question), it is easy to imagine the trouble taken before the melody has been faultlessly caught 'in the little cage of our musical staves' — as the late Father HEERKENS (702), an authority on Florinese music, expressed it.

I have further found — especially in the case of vocal, but also in string-instrumental performances — that the 'corresponding' tones are not quite stable. Moreover, the entire pitch is, on occasion, gradually raised or lowered in the course of the performance. In such cases it may be advisable to indicate this alteration of pitch in the transcription by inserting the vibration figures above different notes whose pitch could readily be determined (i.e. often those with a fairly long time-value).

This peculiarity is, for that matter, by no means a monopoly of exotic musical expressions; Western vocal music, including that sung by really
good singers, knows similar deviations from the theoretical scale, as is clearly
evident from the tone- and interval-measurements made by Otto Abraham
from the performance of a song by a well-trained European singer. 1

It may be apposite at this point to say a word or two about the fairytale
of the 'simple ratios', which, according to the opinion of many, characterize
the European tonal system as the perfect and chosen one. Stumpf 2, indeed,
was able to prove that intervals which are heard and felt to be perfectly
true by musically trained European ears, are precisely the ones that escape
all attempts at representing them by one of the simple ratios in question;
their constituent tones have only approximately such a ratio; in reality,
consonant intervals felt to be perfectly true proved to be slightly greater
than those which could be represented by the simple proportions (while
the subjective tendency to enlarge them increased in accordance with the
size of the consonant intervals).

There are yet other deviations from this numerical simplicity to be
noted in musical practice, apart from those just mentioned.

Thus, European music has for some centuries known the so-called 'equal'
(better: 'proportional') temperament, i.e. the 12 steps into which the
space within one octave has been divided, have been made perfectly equal.
The result of this was that nothing whatever was left of that simplicity
of the vibration ratios, with the sole exception of that of the octave itself.

Again, one tone, i.e. the tone preceding the tonic in the scale, is always
taken sharp when, in melodies, the tonic immediately follows it; this
tone (the 'leading note') is sung or played on a string-instrument in such a
way that it forms, with the tonic that follows it, an interval considerably
smaller than a semitone. The same applies to the tones that have a leading
note function in respect to the tonic immediately below it, and in respect to the
dominant.

Generally speaking, moreover, the seconds and sevenths in our tone-
system are in themselves fairly unstable as it is. Professor Balth. Van
Der Pol, a Dutch acoustic specialist, in his published lecture Muziek en
Elementaire Getallentheorie 3, quotes in this connexion the composer and
theoretician Paul Hindemith, who declares as follows: 'Die Sekunden
und Septimen sind stärkeren Schwankungen unterworfen als alle anderen
Intervalle; sie kommen in Melodik und Harmonik in den mannigfaltigsten
Grössenabstufungen vor'. (i.e. 'The seconds and sevenths are subject
to greater fluctuations than all other intervals; they occur in melodies and
harmonies in the most multifarious dimensions'). 4

1 Dr. O. Abraham, in 'Psychologische Forschungen', vol. 4, p. 1 ff. (1923).
2 Maassbestimmungen über die Reinheit consonanter Intervallen (in collaboration with M. Mayer)
(1742).
3 'Archives du Musée Teyler', vol. 9, p. 507 ff. (p. 528), 1942.
4 Paul Hindemith, Unterweisung im Tonsatz (Mainz, 1937), vol. I, p. 95.
In the summary of his above-mentioned address, Professor Van der Pol declares: ‘The correct relative pitch of any given note depends entirely upon the organic melodic and harmonic relation between that note and those surrounding it. Thus, two modulations, e.g., from C to G, may quite well lead to two different pitches of the respective G’s, according to the respective constructions of the two modulations. Ideally speaking, this fact alone creates certain a priori necessary variations in pitch, which are conditioned by the organic interconnexion’. 1

Further, a good piano tuner invariably tunes the high register of a piano a trifle sharp, since it would give a flat impression if it were theoretically tuned correctly.

It should be perfectly clear from the above that Western musical practice is also far from adhering to the simple quantitative proportionalities of the so-called ‘natural’ intervals (which, as we know, are identical with those of the harmonic overtones). 2

But even assuming that European music should actually have adhered strictly to this structure, which it postulates as the natural, as its credo, so to speak — i.e. the scale structure based on the principle of consonance — even then the fact remains that other peoples have taken quite different principles as their starting point in constructing their tonal system; or, rather — since these words, in effect, represent the course of affairs in reverse order of sequence (i.e., as if the scales came first and the music afterwards), and, moreover, attribute to the whole process a far too conscious and purposive character — that their musical expressions often appear to rest upon entirely deviating foundations; foundations which, in the last analysis, would sometimes seem to derive essentially from a non-musical source.

In many primitive musical expressions we may distinguish a number of ‘Gerüsttone’ (‘skeletal tones’), which are more or less consonant with respect to one another, and form the larger intervals (octaves, fifths, fourths); these are then subdivided by intermediary, not quite constant tones. In this subdivision, what is important is not so much the size of the intervals, but rather the direction (rising or falling) of the melodic line. To use a felicitous comparison of the musicologist Robert Lachmann, it is something like the sketching of dance-steps: their direction and order of sequence, not the precise length of the steps, is what matters (1179, p. 10). Nevertheless, as Von Hornbostel ascertained, it appears that the smaller intervals thus formed do divide the ‘skeletal’ intervals according to ratios found in intervals which are formed according to the consonance principle (1068, p. 14/15, note 24).

2 Vide also, on this question, Yves Chardon, Essais à propos de la justesse attractive (‘La Revue Musicale’, vol. XIII, p. 166 ff.), 1932.
As one of the, in effect, non-musical elements referred to above, we may mention the visual-esthetic feeling which demands, for example, that the stops on a flute shall be placed at equal distances from each other, or — as on some bamboo flutes — always in the middle of each internode; or, again, that strings shall be subdivided in a certain manner according to some hieratic standard.

This latter point leads us to another non-musical element, namely the sanctity of a given standard of measurement or a given number. The fact that so many scales contain either 5 or 7 steps to the octave is sometimes attributed to the sanctity of the numbers 5 and 7. This belief in the holiness of certain numbers is found in large parts of the world; in the majority of cases it is the number 7. Combarieu, in his *Histoire de la Musique* (306, vol. I, p. 39), asserts this in respect of the Chinese, the Hindus, the Chaldeans (Babylonians), the Phoenicians, the Greeks, the Persians, the Arabs and the Turks. In the Indian archipelago, too, this special position of the number 7 is upheld. Dr. A. C. Kruijt, in his treatise *Measa, een bijdrage tot het dynamisme der Baré'-sprekende Toradia's en enkele omwonende volken* 1, gives several examples of this. And as regards the sanctity of a linear measure I refer the reader to Von Hornbostel's important article *Die Maassnorm als kulturgeschichtliches Forschungsmittel* (879).

Conceptions such as these hold that there is — or rather, that there ought to be — a relation between a tonal system and the structure of the universe; the harmony of the spheres must be reflected in the harmony of music. Also the contradistinction between the two basic principles of Life — i.e. the male and female principles, Yang and Yin — finds expression in certain scale systems, as, for instance, in the Chinese tonal system.

Tone systems resting on foundations other than the consonance principle often generate melodies which are essentially unsusceptible to harmonization, unless the deviation from the scales based on the consonance principle is so slight as to be negligible in practice, as in the case of the European tempered chromatic scale.

In contrast to this, West-European melodies are always susceptible to being harmonized; even the seemingly monodic West-European folk-music is based on unsung and unplayed simple harmonies, and in this forms a sharp contrast with other, non-European, as well as many East-European, tunes, which in many cases are purely and simply melodical.

This, however, does not say that there exist no non-European multi-part music. On the contrary, Javanese and Balinese orchestral music — to mention only some very conspicuous examples — are there to prove the opposite. But this multi-part music is not a harmonic one; it knows

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of no teaching of the construction of chords; its harmony has, one might say, a more or less incidental character. Often we have to do with so-called 'heterophony', a term which, in this meaning, was first used by Stumpf 1. This heterophony is the result of the playing around, and making variations on, a nuclear theme by different instruments simultaneously. Besides this heterophony we often find multi-part music, based on 'overlapping' and so leading to primitive forms of polyphony, even real canons (1101).

Exotic music which gives the impression of being built entirely on the consonance principle, and in which, therefore, real fifths, fourths and thirds (including the notorious 'interlocking' and 'pendular' thirds) are heard, may be found, for instance, in places where a negroid element plays a rôle in the miscegenation, as, of course, in Negro Africa, but also in large parts of New Guinea (1102), in the districts Nagé and Ngada in midwest Flores (1083), and in Melanesia (cf., for instance, 849).

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The, in the above shown manner, gradually gathered fact-material had become about the beginning of the 20th century already so extensive and variegated, that examination could be made regarding its serviceableness for investigation as to racial and cultural relationship.

Of the elements brought into question may be mentioned, in addition to the already discussed characteristics of musical expression (p. 19/20):

a) identity of scale systems, both as regards structure (identity of intervals), and as regards absolute pitch (identity of diapason) (cf. 841, 879 and 1094);

b) identity of melodies or of melodic fragments (cf. 552, 1052, 1112 and 1899).

c) concurrence in structural melodic characteristics 2;

d) preference for certain rhythms, intervals and tone-successions 3;

e) the occurrence in different regions of the same, exceptionally formed, musical instruments 4;

f) the occurrence of musical instruments concurring not only in their

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1 It may be noted that the term heterophony is used, in later years, again in the sense which it, apparently, originally had in Plato's famous locus of the dialogue 'Laws' (812 D). Cf. J. Handschin, Musikgeschichte (Bâle, 1948), p. 61.

2 Cf., for instance, the 'tiled' melodies of the Mamberamo Papuas and of some N.W. Australian tribes (1068, 1102).

3 For instance 'the preference for the tritone, combined with ternary rhythms, of the East-Florinese, the South Nias-tribes and the Angami-Naga's and probably yet other peoples with a megalithic culture (1083, p. 35 ff.).

4 F.i. those strangely formed metal instruments, which, in Java, are called hemanak (fig. 40) and do also occur in Central Africa (fig. 41) and N.E. Siberia (cf. J. Kunst, De Toonkunst van Java (1071), p. 131/132 = id., Music in Java (1099), p. 181/182).
essentially, but also in typical details, which are absolutely unnecessary for the sound-production.  

A difficulty in connexion with these data is that it is often impossible to ascertain whether the stated concurrences find their origin in original race-relationship, or in later cultural influences. MARIUS SCHNEIDER'S dictum 'Die Vortragsart ist ein Rassekriterium, der Vortragsstil ein Kulturkriterium' (1640) (i.e. the kind of expression is a racial, the style a cultural criterium) will not always help us sufficiently in drawing the borderline between those two elements.

The pioneers in this field were WILHELM TAPPERT, the author of Wandernde Melodien (1772), OSKAR FLEISCHER in his respectively from 1900 and 1902 dating treatises Ein Kapitel vergleichender Musikwissenschaft (551) and Zur vergleichender Musikforschung (552) and ERICH VON HORN-BOSTEL who published an article in 1911, titled Ueber ein akustisches Kriterium für Kulturzusammenhänge (841). The time had, however, apparently not yet come for such speculations; neither TAPPERT'S and FLEISCHER'S, nor VON HORN-BOSTEL'S treatises found any response. But when later, about 1921, the last mentioned divulged his hypothesis over the structure of the oldest pan-pipe- and xylophone-tuning, the later much contested 'Blasquintentheorie' (i.e. theory of blown fifths), the activity, also of other investigators, was roused.

In this connection I may mention the Frenchman GEORGES DE GIRONCOURT, who in his book La Géographie musicale (629), an enthusiastically written synopsis of the differences in musical expression among the peoples of the world, time and again points out the common elements that suggest a (? racial, ?cultural) relation, a subject which he, in other publications ², worked out at a later date. ³ ⁴

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1 Cf., for instance, the 'pointed' flute (German: Spitzflöte) of Central Timor, called jêhu (fig. 42), which is identical with the dunda of the province of Sokoto (N. Nigeria) (fig. 43), also in its accessoria. (Cf. 1098, p. 9 and figs. 42 and 43).

² Recherches de Géographie musicale en Indochine (632); Recherches de Géographie musicale au Cambodge et à Java (633), and others.

³ It is regrettable that the writer usually doesn't take into account possible differences in scale-structure; with a few exceptions he writes everything in European staff-notation without further diacritical signs or tone-measurements. After all that has already been mentioned, it will not be necessary to point out how this method of work, which reminds one of that used in the pre-phonographic period, can suggest concurrence, that in reality is not there, and miss relations, that exist.

Though we must conclude — from the fact that Mr. DE GIRONCOURT speaks (in a laudatory manner) of other investigators in the same field (at least in his later writings) — that he was acquainted with their work, still he calls himself 'le créateur d'une nouvelle science, 'la géographie musicale' (i.e. the creator of a new science, 'musical geography'). This creation of his is then said to have taken place in 1927 in the November number of the periodical 'La Géographie' and during a lecture, held on May 25th 1928 for the 'Société de Géographie', Paris.

Although Mr. DE GIRONCOURT in the eyes of other ethno-musicologists occasionally seems to be a little bit adventurous in his conclusions, part of his work, in the first place his study Motifs de chants cambodgiens (631) and his Recherches de Géographie musicale en Indochine (632) — the latter illustrated with a wealth of excellent construction-drawings of complicated bamboo instruments — is worthy of our full attention.

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How did music come into being? Theories galore have been propounded to explain this phenomenon; one might almost say, as many theories as there have been investigators of the problem.

Articles summarizing the various hypotheses may be found in, among other works, Stumpp's *Die Anfänge der Musik* (1746), and G. Révész' treatise *Der Ursprung der Musik* (1455). The latter author gives the more detailed and extensive survey of the theories put forward.

(1) There is, first of all, the hypothesis, which originated under the influence of Darwinian thought, that singing is an expression whose origin is purely sexual, just as the singing of birds is supposed to be closely related to their sexlife. This assumption, however, is contradicted by the fact that many birds sing quite as lustily outside the mating season, and by the absence of any reason why human call-notes should precisely have to adopt the form of a melody with fixed and transposable intervals. (Recent animal-psychologic investigations, for that matter, have rendered plausible the theory that the purpose of the bird's song is to mark the boundaries of each individual bird's 'power-domain').

(2) Another theory is that of 'imitation', i.e. the imitation of the bird's song. Against this it may argued that nowhere in the world do we find any primitive people singing in the manner of any species of bird (although many primitive peoples, especially hunting tribes, intermix their songs with birdcries). And further, that the very nature of the bird's song completely differs from that of human singing, i.e. it represents purely 'unmittelbare und zwangsmässig entstandene Reaktionen biologischer Zustände des Tierindividuums' (i.e. direct, compulsively originating reactions to certain biological states of the individual animal). It is 'ein vererbtes, entwicklungsunfähiges, unveränderliches, starres Ausdrucks-
mittel’ (i.e. an inherited, rigid, unchangeable means of expression, incapable of development)\(^1\), invariably sounded by the same individuals at the same pitch. (Professor Révész, in common with Stumpf, considers the transposability of music one of its typical and fundamental characteristics, the two others being, according to him, the existence of fixed intervals and their use in all sorts of tone-combinations in different rhythmic patterns).\(^2\)

(3) A third hypothesis is the so-called ‘rhythm-theory’, which holds that music generated from rhythmic movements, especially from those performed while working\(^3\). The great protagonist of this theory is Carl Bücher, the author of the well-known book *Arbeit und Rhythmus* (234). Both Stumpf and Révész reject this theory; the latter, among other things, on the ground that music could hardly have generated from actions which themselves are soundless. It is, of course, certain, that music proved capable of lightening communal labour once it had come into existence; as it happens, however, really primitive peoples do not know any such common labour necessitating rhythmic movements that might lead to the production of working songs. And even at present the number of such working songs is only small among more primitive peoples; much smaller, for instance, than that of their magico-religious songs and dance melodies.

(4) A fourth hypothesis derives music from sounds uttered under the stress of emotion.\(^4\) These sounds, however, are too spontaneous, too instinctive; they are too much in the nature of unchangeable reflex-expressions of affective states to be able to lead to the creation of vocal music, which precisely presupposes a psychic state that has risen above the primary affects.

(5) Professor Révész also rejects the theory according to which vocal music arose from the lalling of an infant.\(^4\) This ‘singing’ is either produced quite unconsciously and instinctively, or — even at an early stage — melodic; in that case, however, it is undoubtedly pre-influenced by the singing of older persons, or by the child’s hearing instrumental music.\(^5\)

(6) Finally, there is the theory of ‘the melody of speech’.\(^6\) This hypothesis, too, according to both Stumpf and Révész, is untenable. The laws of sound governing speech are completely different from those of music. Speech — and this surely is the main contra-argument — knows no fixed

\(^{1}\) Révész, *op. cit.*, p. 70.

\(^{2}\) See also Robert Lach, *Eine Studie über Vogelgesang* (1141); id., *Der Ursprung der Musik im Lichte des Tiergesanges* (1148) and Heinz Tissen, *Musik der Natur* (1783). The last named author makes an exception for the ‘amsel’ (black bird), who, according to him, is a real creative artist.


\(^{4}\) Révész, *op. cit.*, p. 73.

\(^{5}\) See on children’s singing also Heinz Werner, *Die melodische Erfindung im frühen Kindesalter* (1878) and Fritz Brehmer, *Melodieaufassung und melodische Begabung des Kindes* (223).

intervals; the movement of its tones depends exclusively on the person's mood prevailing at the moment of speaking.

(7) Both the authors cited above, as well as Father SCHMIDT, conclude as the most plausible explanation, that it is the call from the distance, of one human being to another, which should be regarded as the origin of vocal music 1. I am fully inclined to agree with this hypothesis; indeed, as early as 1922, and without being aware of the content of the existing treatises at the time, I myself (in a paper on Het Volkslied, published in the Flemish periodical 'De Muziekwarande') mentioned, more or less in passing, the call as being the 'germinal cell' of folk-song.

Whatever may have been the origin of vocal music, once we come to the now existing, most primitive, purely vocal melodics, we find that it obeys certain human, physiologically and psychologically explainable laws, while, on the other hand, there is not yet any question of real tonal systems. Such systems do not come into being until a people's culture has at its disposal musical instruments on which tonal sequences can be produced; these, however, do not make their appearance until a relatively late stage of development. It is true that prehistoric flutes, made of bone, have been excavated here and there in Europe, with fingerholes or stops, and on which tones of different pitches can be played; but these stops appear to have been placed more or less arbitrarily; the intention of the makers evidently did not go further than to try to produce different tones, not tones having a pitch intentionally determined beforehand. But even supposing that it had been possible to play a consciously intended scale on these prehistoric flutes, this would not amount to much, since, notwithstanding their relatively great age, these flutes are already the products of a fairly high form of civilization, developed some hundreds of thousands of years later than the period at which we may assume that the first 'music' was heard on earth.

There is no doubt that vocal music is infinitely more ancient than instrumental music (although, according to some Africa explorers, the mountain gorilla's are in the habit of beating with sticks on (?hollow) trees) 2.

As regards the origin of instrumental music, there exists a thought-provoking article entitled Anfänge der Musik by CURT SACHS (1533) 3, the

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1 STUMPF, op. cit., p. 26; WILHELM SCHMIDT, op. cit.; Révész, op. cit., p. 75.
2 We may assume that Bonnet-Bourdelet's communication in his Histoire de la Musique (1715), to the effect that 'the monkeys in New Guinea play the flute', is not based on the author's own observation (there being no monkeys at all in New Guinea) — unless it was meant as a hardly flattering appreciation of the personality of the Papuas. — In regard to musical capabilities of monkeys see also J. A. BIERENS DE HAAN, Discrimination of musical tempi by a young chimpanzee ('Archives Néerlandaises de Zoologie' VIII, p. 393 ff.), Leyden, 1951, from which article it appears that a chimpanzee can be made to discriminate between tempi as close to each other as Andante and Adagio!
3 The same subjectmatter is also dealt with in the Introduction of the same author's Geist und Werden der Musikinstrumente (1537).
great scholar on musical organology, one-time professor at Berlin, now at New York.

Professor SACHS points out that vocal and instrumental music originated from two totally different spheres, and must have existed side by side for a very long time, with hardly any mutual connexion. For, as is convincingly evident from customs and traditions still found today all over the world, instrumental music, taken as a whole, derives from the world of magic ritual; vocal music, although in later periods certainly also used for magical purposes (incantation!), originating as we suppose, from the call, will have been, in the first instance, discharge of affects.

We modern Westerners are able to imagine ourselves in the emotional world of the primitive mind only to a small degree; most readily, maybe, during our dreams. In the waking state, we are too analytically-minded; we have become too intellectual. Being, thinking, experiencing, feeling: these are categories which we shall not easily confuse. But the primitive hardly, if at all, makes these distinctions. He lives far more subconsciously, and infinitely more from an inner unity of being. His distinction between Ego and the outer world, too, is more vague; macrocosmos and microcosmos do not, as in our own case, confront him with analogies and parallelisms; they rather appear to him as identical.

On this level of consciousness, the aim of all actions is: the preservation of life.

SACHS, in a masterly and fascinating pericope, has explained this in a convincing manner; he supports his argument with a wealth of documentary evidence, mainly derived from the history of the development of two musical instruments: the drum and the flute.

These two instruments, for that matter, are not by any means the most ancient that man learned to fabricate when he awoke to consciousness — however early in the history of human development they may have appeared on the scene. The oldest instruments were found by man on his own body; stamping and clapping of hands must have provided the first "instrumental" accompaniment to the dance. Also beating on one's buttocks — an illustration of which may still be seen on an ancient Greek vase (1537, Table I, fig. 3) — will have provided the rhythmic background to certain dances (fig. 32).

We may remark in this connexion that primitive man has the greatest difficulty — nay, often finds it totally impossible — when singing, to refrain from making other physical movements. I have repeatedly noticed this during my fieldwork in New Guinea. But even we, cultured as we are, sometimes catch ourselves gently moving our head to and fro when

1 Vide also 1601.
hearing certain melodies, or find, when playing ourselves, that we cannot keep our torso still. This, surely, is the last — evidently ineradicable — rest of the irrepressible inclination of the primitive (who, thank God, still slumbers in everyone of us!), to let himself go when hearing rhythmic sounds, and join in with them with his whole being.

Even when a people has already reached a high level of culture, this inclination may still be present to a marked degree. We can see this, for instance, on some ancient Egyptian sepulchral paintings which have come down to us, and on which the singers are invariably depicted as gesticulating; the basic signification of the ancient Egyptian word for **singing** is *playing with the hand*, and is represented by a hieroglyph in the form of a lower arm with a hand (see fig. 33). From these, at first quite involuntary, movements there later grew a kind of sign-language, in which a given gesture expressed a certain interval, or, at any rate, the direction in which the melody was expected to move. This is the famous **cheironomy** of the ancient Egyptians, which served to replace, in this way, a probably non-existing musical script that thus remained unnecessary, and from which, it seems, the early Christian neums-notation ultimately developed in later centuries (1528, p. 9). The Vedic recitations, too, it appears, used to have a cheironomic accompaniment.

The musical instruments — apart from those directly placed at man’s disposal by nature, such as rattles made from the outer shells of fruits — which we have sound reason to regard as the most ancient, represent, as it were, the objectivation and intensification of the clapping hands, stamping feet, beating of rolls on the performer’s buttocks; in brief, of the ‘music’ produced by the body; technically put: they are extensions of bodily organs, just as, in another field of human activity, the fork is an extension of the hand and fingers, the spoon of the scooping hand, and the hammer of the fist. They are the instruments which we class as beating-sticks, stamping tubes, clappers etc. From these, in the course of untold thousands of years, there originated those countless instrumental forms we know today; the majority, of course, not for the purpose of serving the cause of Beauty, but, as we have said, with the aim of obtaining possession of instruments charged with magical power; others, also, as accompaniment to the (originally magico-religious) dance.

It was once again Sachs who gave us a concise and striking account of this development in his book *Die Musikinstrumente* (1514, p. 9). He puts forward the plausible theory that man learned how to increase the sound of stamping by performing it on a flat piece of wood, a rudimentary plank, instead of on the bare soil, and suggests how the result was found to be still further improved by digging a cavity underneath the plank. (An instrument of this kind is still found among the negritos (negroid pygmies)
in the Andamans (Bay of Bengal); among some South-American Indian tribes, and among the North-Papuas). Or — another evolution — the stamping leg was replaced by a bamboo stamping tube (such instruments are still found, among other places, in the Indian archipelago, in East Africa, the Pacific, and in South-America).

From the clapping of hands there arose, by way of extension-forms of bodily organs, the countless different types of clappers, beating sticks, beating tubes, 'cymbals', and, finally, gongs; and from the 'snapping' of the fingers — ultimately, via many more primitive forms — the castanets. The beating of the player's buttocks was refined and the sound made louder by using a stick instead of the bare hand, and another stick, a tube, or a flat piece of wood in stead of the performer's body. It must then have become obvious that hollow objects make so much louder noises than solid ones, and further, that smaller and shorter objects produce higher tones than larger and longer ones. Gradually, the players must have taken pleasure in the alternation of high and low sounds; at first, however, without striving to obtain a particular pitch or tuning. This may have led to that peculiar subdivision into two or three groups, which were identified with the two sexes or the family relationships. The largest instrument, with the deepest sound, would then be designated as the 'man'; a smaller, higher-sounding one, as the 'woman', and the smallest and highest of all as the 'child'. Of this, too, the present time still provides many examples. As we already have noted above, the Chinese still know, in musicalibus, the contradistinction yang — yin = male — female. But also the Sundanese in West Java distinguish, in their panpipes, between indung = mother and anak = child; and all over Java and Bali we find 'male' and 'female' drums, gongs and kenongs. (A curious thing is that, in the latter islands, the instrument with the largest dimensions and the deepest sound is experienced by the people as female, and the smaller one with the higher pitch, as male).

In the beginning, instruments of different pitches were probably manipulated each by a different player; later on, as people learned how to combine them, a single player could handle the lot equally well, or even better.

The observation that a stamping plank sounds better when a hole is dug underneith, finally leads to the discovery that a beaten sound-tube or -rod also sounds better when a calabashgourd is placed under it. In this evolutionary direction lies the development of the later xylophones and metallophones, which either have a separate sound-body under each key or sound-kettle (as, for instance, on the Javanese and Balinese gender and the African marimba, derived from it), or a common sound-box under the entire range of keys (as in the case of the Javanese saron).
No doubt the wind instruments developed much later than the very simple instruments of the kinds discussed so far, as they do not constitute an extension of bodily organs.

Perhaps the most ancient form was a simple bamboo tube. The incidental discovery that it issued a tone, when the wind blew against it, may have been the incentive to produce the aircurrent by mouth. A combination of such tubes of different lengths again produced the pleasant alternation of high and low tones. At first, each tube will probably have been blown by a separate individual (as is the case to this day with the West Florinese hoi, a set of loose pipes, but which belong together) (fig. 45); later on, these tubes were combined into a one-man instrument, and with this the pan-pipes were born (fig. 44).

The players further learned how to produce both high and low notes on one and the same tube, by the discovery of the 'stops' or fingerholes — an invention which, no doubt, was hailed at the time as a stroke of genius. And the difficulty of blowing into an uncut tube was overcome by fashioning some sort of mouth-piece, at first by a simple small notch in the upper edge of the tube (a modern example of this is the West-Javanese chalintu); afterwards by constructing, by some means or other, a slit which should drive the whole of the air blown into the tube against a sharp edge — which, as we know, is the origin of the sound produced by a flute.

A similar development may be observed in the case of the 'reed'-instruments or glottophones.

The most ancient and simplest example of this group of musical instruments is surely the blade of grass which is held tightly between the thumbs of both hands, as we all know from the days of our youth. Then follows a tube with a folded blade stuck in the top opening, or a pair of reedleaves, tied together and stuck on top of a tube; or, again, a tube into which, by means of a slightly oblique, either up- or downward cut, a so-called beating reed has been fashioned. (In the first case we are dealing with a 'free' aerophone, i.e. a so-called 'interruption'-aerophone; in the last case, with a clarinet; in the other cases, with simple types of the oboe family).

In the East (and for that matter also in Europe until the 17th century), the players of these oboe- and clarinet-forms manage to get a continuous sound out of these instruments, by taking the entire mouthpiece into their mouth. They breathe through the nose, and feed the air into the tube by pressure of the cheeks, just enough to cause the instrumental 'reeds' to keep vibrating, also during inhalation. At a later stage, the mouth is replaced as air-reservoir by a calabashgourd (we think here of the well-known snakecharmer's shawm of India Proper), and later still, by a flexible animal skin, sewn together in the form of a sack. This, then, leads
to the development of the bagpipes, and, still later, to the church organ.

Of the trumpets — these are the instruments, in which the lips of the player function as a double reed — the oldest forms were also, without doubt, stout bamboo segments. Such bamboo trumpets are still to be found, for instance, in New-Guinea. The wooden ones, which presuppose a fairly well developed boring- and cauterizing-technique, must surely be classed with a later period.

We see from all this how important was the rôle played by bamboo in the generation of the most ancient musical instruments; clappers, beating sticks, slit-drums, xylophones, flutes, clarinets, oboes, trumpets: they were all originally fabricated out of bamboo.

Of hardly lesser importance, it appears, was the calabashgourd, which was especially used for all kinds of rattles, and as sound-intensifying body or as air-reserve.

The above considerations lead us to the assumption that the first musical instruments were invented and developed in tropical or subtropical regions.

The two materials mentioned must also have provided the means of producing the oldest types of drums; for the other materials — tho' already existing in ancient times i.e. the hollowed out tree-trunk and the earthenware vessel — belong to a later cultural-historical period than those from which the drum originated. Sachs suggests that the drum was invented from calabash- or coconut-shells containing victuals, which were protected against dust, loss, decay, or insects by covering them with a tight-fitting bladder or skin.

But calabash and bamboo fulfilled their most important musical function in the creation — in a much later period — of the first string instruments. Probably the most ancient, but, especially in Indonesian cultural regions, to this day still perfectly vital form thereof, is the bamboo zither, with its string(s) 'lifted' out of the tube-wall. At first one-stringed and used alone, later, — as in the case of the wooden or bamboo keys of the xylophone and of the flute (see above) — combined into series: the so-called raft-zithers (fig. 36).

In a later phase, the string lifted out of the tube-wall is replaced by a stretched string made of another material, at first — and here and there (for instance, in the Nicobar Islands) even today — of rattan; this turns the instrument from being idiochord into a heterochord one. A parallel development makes this bamboo zither from a monochord into a polychord one, i.e. an instrument with more than one string. In order to lay the instrument down flat, it is cut in half along its longitudinal axis, a proceeding which, later on, leads to the long-drawn zitherforms of China (k’iin), Japan (koto) and Further India (mi gyaung, the crocodile zither of Burma and the Siamese chaké, which tho' closely akin, has lost its crocodile
shape). This sliced bamboo zither still survives in a primitive, still idiochord, but already polychord form in Flores and Timor (fig. 35).

Another chain of development sees the fixing of a resonator — again, of course, a calabash — to the bamboo tube; and along this line there develop the instruments that culminate in the royal instrument which, in North India, is called bin (fig. 34), and in South India vina.

In addition to all these, a large number of stringed instruments are gradually developed from the hunter’s bow, whose string, when the arrow is shot, produces a humming sound; this development proceeds, via different stages during which the mouth serves as sound-intensifier, later replaced by a calabash, which evolves into the actual body of the instrument.

The primitive ‘musical bow’ (fig. 39), which is still found in the most unlikely corners of the world, and which has been the subject of a considerable literature, particularly the writings of Henry Balfour (90) and Tobias Norlund (1372), also survives in the mythology of many peoples: Apollo is an archer and at the same time the god of music; Shiwa, too, is both archer and Lord of the musical bow; the Japanese godhead Ameno Kamato constructs a string instrument from a number of hunter’s bows (cf. the African lu(n)komba) (fig. 38) ¹.

The musical bow with resonator is the common ancestor of all higher developed forms such as harps, lyres and lutes. Their manner of playing varies greatly; some are beaten with a small stick, others are plucked. Stroking the strings (‘bowing’) is the youngest playing method. There are some indications, that the use of the bow was first practiced in Central Asia (Mongolia) and, if that is true, a long period must have elapsed ² before the use of the bow reached West Europe.

Thus far our bird’s eye view of the development of musical instruments.

* * *

Before proceeding now to give an exposition of the system of classification designed by Sachs in collaboration with his colleague Von Hornbostel, following the Belgian musicologist Victor Mahillon, which system constitutes a most successful attempt to arrange in logical order all those — both formerly and at present existing — instrumental forms, I will first give the reader a brief general survey of the subjectmatter.

One of the features of civilization in its later phases of development is a certain inclination to classify the available material and to construe

¹ Vide also J. Mars, Les Lukombe ou instruments de musique à cordes des populations du Kanai — Lac Léopold — Lukémie (1248).
² See, however, our figure 37, on which apparently a bow is used. It is regrettable that no one knows in which period this prehistoric painting was made. It was found by G. W. Stow in the Maluti Mountains of Basutoland and copied in situ. Cf. Percival R. Kirby, The Musical Instruments of the Native Races of South Africa (995, p. 193 ff. and front picture). Perhaps it is very old; perhaps made by Bushmen only recently.

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some kind of system on the basis of this classification. As far as I am aware this has been done, in respect of musical instruments, three times: i.e. in China, in India and in modern Europe.

The Chinese classification is based on the material from which the instruments are — chiefly — fabricated. This classification includes eight groups: *kin* (metal), *che* (stone), *t'u* (earthenware), *ko* (skin), *hién* (strings), *p'o* (calabash), *chu* (bamboo), and *mu* (wood) \(^{(1703, p. 25; 314, p. 80)}\). But however attractive, owing to its simplicity, this classification has never been adopted by Western scientists, because, after all, several instruments are made from a variety of materials, from the combination of which the instrument in question acquires its suitability to produce sound.

On the contrary, the old Indian classification in four groups: *ghana* (cymbals, gongs etc.), *avanaddha* (drums, tamburines etc.), *tata* (string instruments) and *çushira* (wind instruments), which is already to be found in the *Nátya-cástra*, — that large encyclopedic work, attributed to the great BHÁRATA and dating from before our era, — strongly appeals to the Western mind. When, only in 1880, Europe at last arrives at an classification of its own, fulfilling all reasonable demands, it appears to base itself on exactly the same principles as this ancient Indian one. Until that year, a hopeless confusion generally prevailed in this respect, also in professional circles. In that same year there appeared the extensive *Catalogue descriptif et analytique du Musée instrumental du Conservatoire de Bruxelles*, from the pen of the then Conservator of that museum, the musician and instrument-maker VICTOR MAHILLON (1841—1924). In this work, a logical system of classification, comprising all instruments housed in the Brussels museum, was for the first time put into practice \(^{(1250)}\).

However, owing to the relatively small number of exotic instruments present in the said museum, the system, in the state it was published at the time, was still far too much concerned with European musical instruments alone, with the result that, on the one hand, certain features were given a relatively too important place in the subdivisions (e.g., whether or not they had a keyboard), while, on the other hand, distinct groups had been formed which, seen from a more general point of view, were not logically coördinated (as, for example, the division of aerophones into (a) reed-, (b) mouth-hole-, (c) polyphonous instruments with air-reservoir, and (d) funnel-mouthpiece-instruments). It further appeared, when more exotic instruments gradually became known, that several of them could find no place in this system.

With these facts in mind, VON HORNBOSTEL and SACHS proceeded, while preserving the main lines of the system, to extend it in such a way as to ensure that it would cover all instrumental forms known to them at the time, as well as any others which, although not yet discovered,
might quite possibly be extant. VON HORNBOESTEL and SACHS, indeed, succeeded in bringing the task they had set themselves to a most felicitous conclusion, making use of the decimal system of DEWEY (851).

But although we had, at last, an excellent system of classification at our disposal, there was still a long way to go before it was generally used in literature and in the existing museum catalogues. We still find, in many museums, completely unacceptable headings and subdivisions, in which, for instance, the mouth-organ (a wind-instrument) and the mouth-harp or jew’s (＝ jaw’s) harp (an instrument with vibrating lamella) are united in one and the same group, or in which the most dissimilar forms, such as drums and gongs, are classed together under the heading ‘percussion-instruments’.

It is further usual to form, in addition to the group of Percussion-instruments, another two groups, viz. String-instruments and Wind-instruments. However, remaining are various other types of instruments, and these are usually put collectively in a questionable fourth category ‘Miscellaneous’!

In the subdivisions there prevailed an even worse anarchy. A large number of conservators and ethnologists did not even know the difference between clarinets, oboes and flutes, while an oboe, if it happened to possess a ‘bell’ (soundfunnel) made of tin or other metal, was often listed as a ‘trumpet’.

In connexion with this it may be remarked, that the indication of the native names is frequently anything but helpful, since the same names are used for different instruments in different places, and sometimes even in one and the same region. Thus, in a large part of Central Africa, the name marimba is given to a xylophone, while in the Congo-basin it is also frequently used to designate quite a different lamella-instrument, usually called sanza. The chelempung is, in West Java, a bamboo idiochord with either one or two strings; in Central Java it is a form of heterochord zither with 13 double strings. But in Siak (Central Sumatra) it is a metallophone consisting of a range of either 5 or 10 small horizontally placed gongs! In Siam, the name klu’i is given to wind instruments of the most divergent character, etc. etc.

But where musicologists were completely at a loss was in the case of the Aeolian harp — a stringed instrument played by the wind — and in that of the piano and the cembalo, which, although stringed instruments, are beaten by means of small hammers, and therefore perhaps ought to be filed with the percussion group.

A further point to be noted is the customary subdivision of orchestral wind instruments into the ‘brass’ and the ‘wood-wind’ groups, a most peculiar and, surely, equally unsatisfactory classification, since several instruments of the ‘brass’ group — particularly the more ancient ones —
used to be made of wood (in some cases ivory), e.g. the ‘Zinken’ (a primitive type of cornet), the ‘Serpents’ and the Bass-horns, whereas, on the other hand, many of the ‘wood-wind’ group are often — or always — made of metal (flutes, saxophones, sarrusophones, etc.).

Not only in the museum catalogues, but also in the musicological literature, we find, even to this day, years after the creation of such a logical system of classification, the queerest subdivisions. As one of the most appalling examples we may mention Stephen Chauvet’s beautifully edited book *La Musique Nègre* (271), in which this author follows a twofold classification, namely (a) ‘les instruments de rhythme’ (according to him, these are the drums, the horns (‘trompes’), signalling whistles (‘sifflets’) and rattles (‘hochets’)), and (b) ‘les instruments de musique proprement dits’ (i.e. genuinely musical instruments). It would be hard to think of a more unsatisfactory classification.

However, the majority of musicologists today adhere to the system proposed by Mahillon, Sachs and Von Hornbostel. A few, who, for some reason or other, do not or only partly agree with this, apply a classification of their own, for example Georges Montandon in his *Généalogie des instruments de musique et les cycles de civilisation* (1322), and André Schaeffner (1597—1611) the leader of the musicological department of the Musée de l’Homme at Paris, in his treatises *D’une nouvelle classification méthodique des instruments de musique* (1598); *Note sur la filiation des instruments à cordes* (1599) and in his book *Origine des instruments de musique* (1602), Tobias Norlind, in his excellent *Systematik der Saiteninstrumente* (1372, 1373), has practically adopted in its entirety the classification of Sachs and Von Hornbostel (without the decimal system), except for the fact, that he unites the idiophone and the membranophone groups 1 under the heading *autophones* (1374) and has carried the subdivisions much further. The above-mentioned, antiquated division into three classes — still followed at as late a date as 1904 by Henry Balfour in his *Musical instruments from the Malay Peninsula* (94) and again, in 1929, in his *Music* (97) — is deficient not only in that it fails to comprise all instrumental forms, but in addition is lacking in homogeneity: on the one hand it places the method of playing as the criterion (i.e. in regard to the percussion- and wind-instruments), and on the other the material which primarily is made to sound (i.e. as regards the group of stringed instruments).

Mahillon’s classification, on the contrary, puts forward only one single criterion for the division into the main groups, namely, the material which is made to sound in the first instance. This author distinguishes four main classes of instruments, i.e.:

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1 These terms will be discussed in the next alinea.
(a) **Autophones**, whose material itself produces the sound, without being previously stretched in any way whatever;

(b) **Membranophones**, made to sound by means of a skin or membrane stretched over the instrument;

(c) **Chordophones**, made to sound by means of stretched strings;

(d) **Aerophones**, in which it is not the material from which they are made, but, in the first instance, the air — in most cases the column of air inside the instrument — that is made to sound.

This main classification has been taken over by **Sachs** and **Von Hornbostel**. The only alteration they made in the above nomenclature was to replace the term *autophone* by *idiophone*, in view of the fact that we are accustomed, in our technical terminology, to associate the prefix *auto* with the concept of movement under a mechanism’s ‘own’ power, i.e. automatic action.

Each of the above four main groups has naturally been subdivided. In this subdivision, however, there is not the same unity of criterion as seen in the main groups. The idiophones are classed and arranged according to the playing method; the membranophones, in the first instance, also according to the playing method, but further according to shape; the chordophones are first split into two groups, i.e. that of the simple, and that of the composite instruments, and they are further classified according to shape; in the case of the aerophones we first find a division into ‘free’ aerophones and wind instruments proper, after which the latter group is again subdivided according to the manner they are blown into.

In this subdivision, therefore, homogeneity of criterion is again conspicuous by its absence. **Von Hornbostel** and **Sachs**, of course, intended this to be so; indeed, they say, in their Introduction: ‘Da wir absichtlich die verschiedenen Gruppen nicht nach einem einheitlichen Prinzip untergestellt, sondern den Einteilungsgrund allemal der Eigenart der Gruppe angepasst haben, so sind Gruppen von gleicher Rangordnung im System durchaus nicht immer koordiniert’. (i.e. Since we purposely refrained from subjecting the various groups to some homogeneous principle, and, on the contrary, adapted the basis of our subdivisions in each case to the typical character of the group in question, certain sub-groups of the same order of precedence are not always coordinated in our system) (851, p. 558).

None the less, **Montandon** rather frowned upon this inequality of criterion in the subdivisions, and, accordingly, in his own system subdivided all groups according to one, the playing method.

**André Schaeffner** finds that he cannot agree in every respect with either Mahillon—Von Hornbostel—Sachs’ or Montandon’s classifi-
cation. As regards the former, he considers the group of the idiophones not homogeneous enough. Taking Montandon's definition as his starting point — which says that the idiophones include... 'tous corps dont la vibration est le fait de leur carcase et non de membrane, de corde ou primairement de l'air' (1322, p. 47) (i.e. each instrument, in which the vibration is caused by the body, and not by a membrane, a string or, primarily, the air) — Schaeffner points out that, in that case, instruments such as the African sanza have, in effect, been mistakenly classified with the idiophones. For here, it is the plucked metal or wooden tongues and not the body — a flat piece of wood or a sound-box — that constitute the primarily sounding material. (These instruments with 'hard' tongues also led Professor A. E. Cherbuliez, the Zürich musicologist, to distinguish, in addition to the four main groups, as classified by Mahillon-Sachs—Von Hornbostel, a fifth, which he calls the linguaphone group. With this group Cherbuliez classes, for instance, besides the sanza, the mouth-harps, and the imitation-drum of the Javanese kowangan (1099, p. 200, and fig. 92)).

According to Schaeffner the same applies — be it in a lesser degree — to many East-Asiatic and African xylophones and their family. Here also, it is not the body (a wooden box, a wooden frame with bamboo tubes, c.q. with calabash-gourds) that sounds in the first instance — although it does function secondarily — but another part of the instrument, viz. the keys.

As regards Montandon's system, Schaeffner's special grievance is against the use of the criterion of the playing method all along the line. For, he says, if we do that, then we must class a plucked lute with a different group from that of a bowed lute, despite of the fact that the two are constructed exactly alike; one and the same instrument may quite well have started its career as a plucked one, and developed only centuries later into one played with a bow, for example the ancient Keltic crwth (Latin: chrotta). And what is one to do about the guitar, which, as occasion may demand, is made to sound in glissandi, by beating the sound-box, or plucking the strings? And what about the violin, which, though mostly played with a bow, is also plucked from time to time? And where are we to go with the bamboo idiochords, some of which are plucked, whereas others are beaten with a stick?

Taking all this into consideration, Schaeffner finally preferred to design a classification system of his own. This — two-part — system distinguishes:

(a) instruments whose primarily vibrating material is a solid;
(b) instruments whose primarily vibrating material is a gas, namely, the air.
The first group, in its turn, is split into two, viz. (1) the sub-group characterized by ‘... vibration d’un corps solide, non susceptible de tension, et à intonations invariables ou indéterminables’, and (2) the sub-group characterized by, ‘... vibration d’un corps solide tendu, à intonation variable’.

In 1936 he made this subdivision threefold: from the first sub-group he detached as an independent one a sub-group ‘corps solides flexibles’, among which, he, for instance, classified the sanzas and the jaw’s harps (1602, p. 371 ff).

There is certainly much to be said for this classification of SCHAEFFNER’S; it cannot be denied that it is logical. Nevertheless, in my opinion his objections to MAHILLON’S system do not hold water; there is not the slightest reason, for instance, to take that definition of MONTANDON as a standard; after all, it is neither the sound-box of a xylophone, nor that of a sanza, in short, not the body of those instruments, but the keys themselves which comply with the criterion of being able to produce a tone without having been previously stretched, as a string or a membrane is. And though the having of a homogeneous criterion for the main groups is desirable, it is, in my opinion, a matter of complete indifference whether one waives this desire, purely from considerations of expediency, in the case of the subdivisions, providing always that they are consistent within the range of each sub-group, that is: neither overlap nor leave part of the field uncovered.

In 1948 a new, very detailed, classification system was proposed by HANS HEINZ DRÄGER in his brochure Prinzip einer Systematik der Musikinstrumente (433). It is constructed on the foundations laid by MAHILLON, SACHS and VON HORNBOESTEL, but attempts to achieve a greater homogeneity in the criteria. The utility of this system will have to be proved in practice, but, personally, I think it too detailed to be easily handled. The already existing systems are quite serviceable, and this new one will probably have difficulty in getting a foothold.

In my work, in common with WALTER KAUDERN in his Musical Instruments in Celebes (974), K. G. IZIKOWITZ in his Musical and other Sound-instruments of the South American Indians (944), CLAUDIE MARCEL-DUBOIS in her Instruments de Musique de l’Inde ancienne (1257), and HANS HICKMANN in his large Catalogue (766), I have thought best to adhere to MAHILLON’S system, as perfected by VON HORNBOESTEL and SACHS; my own experience being that only in extremely rare cases does it let the investigator down. Only, when dealing with modern European organology, one has to add a supplementary group, namely that of the electrophones, of which, during the last decades, many different types have been created (for instance, the Trautonium, MARTENOT’S Ondes sonores e.t.q.).
It was Curt Sachs who first made an attempt to order and classify the infinite variety of sound-instruments from the cultural-historical angle. In his book Geist und Werden der Musikinstrumente (1537), a masterly, authoritative and comprehensive work, he has succeeded in laying down the main lines of investigation, thus creating a firm basis for subsequent workers to build upon with confidence. In a later work, The History of Musical Instruments (1546), Sachs once again ordered and arranged the entire organological material, starting from a somewhat different standpoint, but with every sign of still deeper and more mature insight.

In the first-named work, the Berlin musicologist enumerates four ways along which we may come to a classification as intended by him, namely:

(a) the purely musicological way, in which the guiding principle is the greater or lesser development of an instrument. Here, however, we are faced with unsurmountable difficulties: where are we to look for the evidence of this higher development? In the volume of tone? In the reduction of the size of the intervals? In the greater purity and refinement of the tone-quality? In the increasing possibilities to produce rhythmic or dynamic variety? And again, is it possible to test the degree in which each of these elements is present in each particular case by trying an instrument found in a museum, and without the cooperation of a player who is familiar with its manipulation?

(b) the ‘ergological’ method, in which account is taken of the qualities showing the degree of craftsmanship needed to fabricate it;

(c) the classification according to the ‘Kulturkreise’ (i.e. cultural regions) where the instrument is found, as Frobenius, Graebner, Foy, Anker-Mann and Father Wilhelm Schmidt have endeavoured to distinguish;

(d) the theory that the further an instrument is found from its centre of origin, the older it is. One could call it the geographical method. This method can be applied only by the ethno-musicologist who, in the controversy ‘Entlehnung oder Völkergedanke’ (i.e. assimilation or plurigenesis) has voted for ‘assimilation’. And, as Sachs rightly remarks, the evidence of migration, and adoption by other peoples, of different instrumental forms is so overwhelmingly convincing, that musicologists can hardly be expected to be other than adherents of the ‘Entlehnung’ theory. One of the primary reasons for rejecting the idea of plurigenesis (i.e. the independent appearance of the same instrument in different regions) is the presence, in so many cases, of perfectly identical, non-essential features of the instruments in question.

On the ground, therefore, of geographic diffusion, but also and unmistakably guided here and there by the ‘Kulturkreislehre’ (i.e. cultural regions-doctrine) of the Viennese ethnological school, as well as taking into account, where necessary, the structure and craftmanships shown
by the various instruments, SACHS — aided by his phenomenal knowledge of facts, both in the field of the actual organology and that of comparative linguistics (he began his career as a man of letters and as historian of art) — was able to put some order into the instrumental chaos.

The author divides his subject-matter into three main parts, namely, the Stone Age, the Metal Age and the Middle Ages. The first period is again subdivided into no less than 12, the metal age into 7, and the middle ages into 4 periods.

What strikes one in this is that, generally speaking, the most ancient strata, comprise a wider field than the later ones — resembling what happens when a stone is thrown, into water: the first circles — i.e. the outer ones — cover the greatest area. My late colleague J. S. BRANDTS BUYS (202—219), who made a most meritorious study of the music of Central Java and Madura, spoke of this phenomenon and the conclusions which were drawn from it, as the ‘witches ring theory’.

There are many things which point to the probability that this wealth of instrumental forms for the greater part owes its existence to two very ancient cultural centres, namely, the Egyptian-Mesopotamian centre and the ancient-Chinese. Also there are a few indications which suggest that, behind these two civilizations, there must have been a still more ancient one from which they both originated, and which must probably be located somewhere in Central Asia.

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In this booklet many ethno-musicologists of great merit have not yet been mentioned, because it so happened that they did not fit into the scheme followed in its composition. For instance the Finnish musicologists OTTO ANDERSSON (32—39) and A. O. VÄISÄNEN (1808a—1819); the French investigators Father AMIOT (1779)! (26), ALEXIS CHOTTIN (277—291), RODOLPHE D’ERLANGER (482, 483), JOANNY GROSSET (665), RAOUL and MARGHERITE D’HARCOURT (139, 687—690), Mrs. HUMBERT-SAUVAGEOT (918, 919, 1787), VICTOR LORET (1233—1235), LOUIS LALOY (1190—1194), A. MACHABEY (1236—1241), NOËL PÉRI (1402), a.o.; the Mongol princess NIGRIDA DE TORHOUT (1787); the Turkish musicologists ADNAN AHMED SAYGUN (1950—1953) and RAOUF YEKTA (1918); the Angelsaxon scholars PHYLLIS ACKERMAN (5), EDWARD BURROWS (245—249), CHARLES RUSSELL DAY (351—353), HENRY GEORGE FARMER (494—531k), EMMANUEL WINTERNITZ (1889), DAVID P. MCALESTER (1283—1284b), COLIN MCPHEE (1285—1295), ALAN P. MERRIAM (1305—1309), A. C. MOULE (1328, 1329), FRANCIS PIGGOTT (1408), LAWRENCE PICKEN (1406, 1407), and many others; the Dutchman J. A. VAN AALST (1); the African experts K. P. WACHSMANN (1839—1843) and HERBERT PEPPER (1397—1401); the
Indian scholars Ananda Coomaraswamy (310—313), C. S. Aiyar (12—19), Sri Pada Bandipadhyaya (100, 101), V. Raghavan (1423—1425), K. V. Ramachandran (1427—1432), Pandit Ratnakar (1438—1442), P. Sambamurthy (1561—1572) e.t.q.; the Japanese Shigeo Kishi Be (1008—1010), Genjiro Masu (1274, 1275), Taro Ota (1387), K. Sunaga (1753), Hideo Tanabe (1767, 1768), Kiyosi Takono (1765, 1766), S. Tanaka (1770) a.o.; the Chinese En Shao Wang (1852) and Kuang Chi Wang (1853—1856); the Siamese H. E. Nai V. Vichitr-Vadakarn (1836); the Burmese U Khin Zaw (1922, 1923); the Australian experts Harold E. Davies (348) and A. P. Elkpin (448); the Maori specialist Joh. C. Anderssen (28—31); the Belgian Olga Boone (161, 162); the Korean scholar Ching Sik Keh (976); the Cuban investigators Fernando Ortiz (1384) and Eduardo Sanchez de Fuentes (1573—1576); the Uruguayan Lauro Ayestarán (62, 63); the Mexicans Carlos Chavez (272) and Gabriel Saldivar (1558); the Brazilians Luiz Heitor Corrêa de Azevedo (64), Mrs. Oneyda Alvarenga (25) and Renato Almeida (24); the Indian expert A. A. Bake (67-89, 565a, 1934), and many others who, I hope, will not resent my omissions.

A variety of subjects, too, some of them most important, have been hardly, if at all, touched upon in the above. Thus, for example, the different tonal systems and scale systems in practical use in the world 1, the various melodic formulae and tonal patterns so characteristic of many non-European musical cultures (as in the ancient Greek nomoi, the Japanese No-music, the raga’s of India Proper, the Hebrew nigūn, the Javanese pālet, and the Persian-Arab maqamat); the forms of multi-part music 2; problems of rhythm 3; the cultural-historical currents in so far as they found expression in music 4; problems of style 5 and form 6; the various exotic musical scripts 7; music and magic 8; music in its relation to work 9, music and

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1 For the demonstration of the structure of exotic scales there has been developed at the Royal Tropical Institute, Amsterdam, a polychord, provided with 12 graduated scales, moveable bridges and tuning pegs, which can duplicate any kind of scale of known vibration numbers (fig. 47). It is available for any serious musicologist at a moderate price (address: Royal Tropical Institute, Department of Anthropology, Linnaeusstraat 2A, Amsterdam Oost).

2 See, for instance, 43, 165, 248, 803, 837, 901, 966, 984, 985, 1101, 1176, 1407a, 1466, 1467, 1535, 1630, 1630a, 1631, 1636, 1791.

3 In regard to rhythm, West-European musicians and musicologists are inclined to forget that the greater part of the white race is decidedly inferior to many non-European peoples, especially the African negro-peoples. Ample evidence of this may be found in 958, Part II; 966, and 608. — For intricate (East-) European rhythmic structures, I may refer the reader, for instance, to: 49, 198, 200, 320, 428, 1042, 1366, 1825, and 1826. — For problems of rhythm in general, see: 27, 375, 613, 905, 1101, 1338, 1339, 1555, 1556, 1762, and 1881.

4 See p. 45/46 note 4, and, for instance, 1008 and 1010.

5 See, for instance, 180, 326, 332, 725, 736, 882, 894, 915, 1149, 1356, 1357, 1631, 1638, and 1640.

6 See, for instance, 737, 1034b, and 1482.

7 See, for instance, for Babylonia: 1539, 1532, 1551; for Sumeria: 590, Chapter IV; for Hellas: 1529 and 1531; for Arabia: 1196 and 1199; for India: 275, 337 II, 1510, 1685, and 1686; for Tibet: 1702; for Java: 204a, 219, 1099, p. 346 ff.; for Ball: 1062, par. 5 (p. 47 ff.); for Japan: 695; for Okinawa: 1507; for China: 671, p. 4—5, 857, 1021, 1214, 1802, and 1854; for Persia: 1196. For a general survey see 1972a.
philosophy\(^1\), psychology of music\(^2\), music as a sociological factor\(^3\), music and religion\(^4\), music and medicine\(^5\), classification of melodies\(^6\), music and mission\(^7\), etc., etc.

Certain of these subjects, however, have been dealt with in other publications that either have already appeared or are about to appear.


As said above, Sachs gives a generously ample survey of the development of music and musical instruments in the course of the past millennia, in the two brilliant monographs, repeatedly cited in the foregoing pages: *Geist und Werden der Musikinstrumente* (1537) and *The History of Musical Instruments* (1546) and also in his book — no less recommendable — *The Rise of Music in the Ancient World, East and West* (1549), while for the nomenclature of musical instruments his *Realexikon der Musikinstrumente* (1513) — published as early as 1913, but not by any means out of date — may be consulted with much benefit.

Most of the publications mentioned in these pages deal with problems and subjects of a general nature. But also for the study of the music of certain particular parts of the world, a large number of monographs are available to those interested. Most of them the reader will find listed alphabetically in the following Bibliography. In Index II, on p. 142, there are inserted the names of the countries, regions and tribes the music of which has been studied. The numbers in brackets placed after those names refer to the corresponding numbers of the publications found in the said bibliography; the numbers in italics to the pages on which they are mentioned.

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\(^1\) See, for instance, 131, p. 53 ff., 236, 238, 305, 373, 537, 969, 1118, 1120, 1121, 1206, p. 65, 1499, 1482, p. 37, 1498, p. 2600, 1509, 1514, p. 21 ff., 1702, 1999, 1915 e.t.q.

\(^2\) See the famous book by Carl Bücher, *Arbeit und Rhythmus* (234), and, for instance, A. Varagnac (1821).

\(^3\) See: 228, 907, 1194, 1504, 1801, 1845, 1877, and 1965.


\(^5\) See: 145, 157, 907, and 1106, and many others, for instance: 1029, 1150, 1850, 1851.

\(^6\) See, for instance: 4474, 477, 575, 6694, 735, 747, and 1053.

\(^7\) See, for instance: 48, 373, 381, 388, 1120, 1121, 1241, and 1664.

\(^8\) The classification of European folk songs owes much to Ilmari Krohn (1046); see also 1819.

\(^9\) See: 1092 and 1508.
BIBLIOGRAPHY

This bibliography contains two categories of books and articles:

a) works concerned exclusively with music and musical instruments of non-European peoples;

b) some important publications on ancient and early European music and folk music.

Publications of a more general character (e.g. reports of travels, ethnological expeditions, and missionary activities) which often contain interesting data on music and musical instruments, musicians and the role of music in tribal life, are not included. These can be located by referring to the extensive bibliographies found in works marked by an asterisk. Nor are inserted publications in the Russian, Arabic, Chinese, Japanese, Indonesian, Javanese and Sundanese languages, and in the languages of the Indian subcontinent.

1. AALST, J. A. VAN, Chinese music (1884, 2/1933).
2. ABAS, S. P., De muziek der Bataks ('Caecilia-Muziecollege'), Mei 1931.
3. ABERT, HERMANN, Die Lehre vom Ethos in der griechischen Musik (Leipzig, 1899).
6. ADLER, BRUNO, Pfeifende Pfeile und Pfeilspitzen in Sibirien ('Globus' LXXXI), 1902.
10. AGRAWALA, V. S., Some early references to musical ragas and instruments ('The Journal of the Music Academy, Madras' XXIII, p. 113 ff.), 1952.
11. AHLBRINCK, W., Encyclopaedie der Kairen (Kon. Akad. v. Wetenschappen, Amsterdam, 1931), passim.
12. AIYAR, C. SUBRAHMANIA, Quartetones in South Indian (Carnatic) Music ('The Journal of the Musical Academy, Madras' XI, p. 95 ff.), 1940.
13. — Comparative music, European and Indian (ibid. XII, p. 36 ff.), 1941.
17. — Musical research and frequency ratios (ibid. XXI, p. 64 ff.), 1950.
20. AIYAR, M. S. RAMASWAMI, Thiagaraja, a great Musician Saint (Madras, 1927).
42b. ANDREE, R.,
42a. ANKERMANN, B.,
43. ANTONOWYTSCH, M.,
38. ANONYMUS (GEORGE GROVE ?),
35. --
33. --
36. --
37. --
39. --
34. --
31. --
30. --
27. ANDERSEN, A.
29. --
28. ANDERSSEN, JOHANNES C.,
25. ALVARENGA, ONEYDA,
26. AMIOT, FATHER,
27a. zi. keit in den ukrainischen Volksliedern
26a. instrumente
27a. ANDERSEN, ARTHUR J. O.,
27. Die Mehrstimmigkeit in den ukrainischen Volksliedern
27. ('Kongressber. Intern. Ges. f. Musikw.,
25a. Altnordische Streichinstrumente
25. des Turcs d'Asie Mineure)
24. ZOLTAN KODALY
23. Die Mehrstimmigkeit in den ukrainischen Volksliedern
22. ANDREY, R.,
22. Die Mehrstimmigkeit in den ukrainischen Volksliedern
22. ('Globus' LXXV, No. 9),
21. BRAUNSCHWEIG, 1899.
20. ANKERMANN, B.,
19. Die Mehrstimmigkeit in den ukrainischen Volksliedern
19. ('Globus' LXXV, No. 9),
18. ANONYMUS (GEORGE GROVE ?),
17. --
16. --
15a. --
15b. --
14a. --
14b. --
13a. --
13b. --
12a. --
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4a. --
4b. --
3a. --
3b. --
2a. --
2b. --
1a. --
1b. --
0a. --
0b. --

The Impact of Western Music on the Intern. Folk Music Council' V, p. 57 ff.), 1953.
88. BALFOUR, HENRY, The Old British 'Pibcorn' or 'Hornpipe' and its Affinities ('Journal of the Anthropol. Inst.' XX, p. 142 ff.), 1890.
89. — A primitive musical instrument (the whit-horn) ('Reliquary and Illustr. Archaeologist', N.S. II, p. 221 ff.), 1896.
90. — The Natural History of the Musical Bow (1899).
91. — Three bambu Trumpets from Northern Territory, South Australia ('Man' I, Nos. 28, 33-34), 1901.
94. — Musical Instruments from the Malay Peninsula ('Fasc. Malayenses' 1901-02, Part II), 1904.
98. BAÑAS Y CASTILLO RAYMUNDO, The Music and Theater of the Philippine People (Manilla, 1924).
100. BANDOPADHYAYA, SRI PADA, The Music of India (D. B. Taraporevala Sons & Co., Bombay, und.).
101. — The Origin of Raga (a short historical sketch of Indian Music), Delhi, 1946.
102. BARBEAU, MARIUS, Veillees du Bon Vieux Temps (Montreal, 1919).
103. — Folksongs of French Canada (in collab. with EDWARD SAPIR) (Yale Univ. Press, 1925).
104. — Songs of the Northwest ('The Musical Quarterly' XIX), 1933.
105. — Folk Songs of Old Quebec (Nat. Mus. of Canada, 1935).
152. Best, Elsdon, "Maori Songs" ('New Zealand Official Yearbook' 1918, p. 739).
159. — Songs and Dances of the Kwakiutl ("Journal of American Folklore" I), 1888.
166. — La Musique turque ("Revue de Musicologie" III, p. 149 ff.; IV, p. 26 ff. and 60 ff.), 1922/23.
176. — Musik und Musikinstrumente des Balkans ("Atlantis' 1938, fasc. 11).
177. — Introduction and some chapters in Else Ziehm, 'Rumänische Volksmusik' (Berlin, 1939).
178. — Einfluss der Musikherziehung auf Begabung und Leistung ("Der Erzieher" No. 37, 1940, p. 3 ff.)
179. — Musikpolitische Aufgaben in Afrika ("Koloniale Rundschau" 1941).
181. — Rassenlehre und Rassenforschung in der vergleichenden Musikwissenschaft ("Musikblätter" No. 16, 1948, p. 5 ff.)
184. — Das Sprach-Musik-Problem ("Musica" V, p. 82 ff.), 1951.
187. — Musikalische Völkerkunde (Freiburg i/Br., 1953).
188. — Die Tongleichheiten. Erich M. von Hornbostel zum Gedächtnis (1877—
196. — Bouisset, Max, La Musique au Viet-Nam ('Sud-Est' Dec. 1950, p. 48 ff.).
198. — Bahe, Batwa).
205. — (in collab. with id.), Omtrent de rebab (ibid. XIX, p. 368 ff.), 1939.


260. Chaitanya Deva, B., *The emergency of
271. CHAUVET, STEPHEN, Tableau de la musique marocaine (Paris, 1939).
272. CHAVEZ, CARLOS, Compositions and the six fundamental music and musical instruments of the ancient Tamils ('Quarterly Journal of the Mythic Soc.' XXVI), 1935.
276. CHINNERY, E. W; P., Rªgues de Hindusthani Music ('El drone in Indian music, a psychological approach ('The Journal of the Music Academy, Madras' XXIII, p. 126 ff.), 1952.
277. CHOTTIN, ALEXIS, La pratique du chant chez les musiciens marocains (ibid. I, p. 52 ff.), 1933.
278. CHOW, Y. R., Music and other New Indian Folktunes for Solo Descent Recorder (Schott & Co., London), undated.
284. — Les visages de la musique marocaine ('Outre Mer' March 1929).
293. — — Tableau de la musique marocaine (Paris, 1939).
300. — — Corps de musique marocaine, fasc.


303. Csenki, Imre and Sándor, Népdalgyűjtés a magyarországi cigányok között (A collection of folk music among the gipsies in Hungary) (in 'Mélanges offerts à Zoltan Kodály à l'occasion de son 60ième anniversaire', p. 343 ff.), Budapest, 1943.


308. Dannkert, Werner, Urysybule melodi- discher Gestaltung (Kassel, 1932).


310. —— Musikwissenschaft und Kulturkreislehre ('Anthropos' XXXII, p. 1 ff.), 1937.


313. —— Grundriss der Volksliedkunde (Berlin, 1938).

314. —— Das europäische Volkslied (Berlin, 1939).


321. —— A folkang ndilkiin pentatonic erdete (The origin of anhemitonic pentatonic scales) in 'Mélanges offerts à Zoltan Kodály à l'occasion de son 60ième anniversaire', p. 9 ff.), Budapest, 1943.


323. —— Das Volkslied (Berlin, 1939).

324. —— The Japanese Ko-uta and Ha-uta, the 'little songs' of the 17th century ('The Musical Quarterly' XXXIV, p. 68 ff.), 1948.

325. —— Musikwissenschaft und Kulturkreislehre ('Anthropos' XXXII, p. 1 ff.), 1937.


328. —— Grundriss der Volksliedkunde (Berlin, 1938).

329. —— Das europäische Volkslied (Berlin, 1939).


333. —— Das europäische Volkslied (Berlin, 1939).


335. —— Das Volkslied (Berlin, 1939).

336. —— Das Volkslied (Berlin, 1939).

337. —— Das Volkslied (Berlin, 1939).

338. —— Das Volkslied (Berlin, 1939).

339. —— Das Volkslied (Berlin, 1939).

340. —— Das Volkslied (Berlin, 1939).
Calcutta, 1950); II. The main Ragas. An analysis and notation (London, 1953).


344. DARMSTETER, JAMES, Chants populaires des Afghans ("Soc. asiatique, Collection d'ouvrages orientaux", 2nd series), Paris, 1880-1890 (2 vols.).


353. — Denkmäler der japanischen Ton­kunst (Tokyo, 1930).


355. DECHEVRENS, S. J., Etudes de science musicale (Paris, 1898), 4 vols., containing a.o.: Système model de Pythagore et des Grecs postérieurs; La musique gréco­romaine et l'octoëchos; Chants liturgiques chez les Juifs et les Orientaux; Mélodies arméniennes, etc.


357. DEJARDIN, A., Alain Gheerbrant aux sources de l'homme ("Synthèses" VII, No. 78, p. 50 ff.), 1952.


361. DÉNES, BARtha, and Kiss, JÓZSEF, Ótödfőszáz énekek (Budapest, 1953).


367. — Indian action songs. A collection of descriptive songs of the Chippewa Indians, with directions for pantomimic representation in schools and community ensembles (Boston, 1921).


371. — Mandan and Hidatsa Music (ibid. No. 80), 1923.

372. — Music in the treatment of the sick by American Indians ("Hygeia" April, 1923, p. 29 ff.)


374. — Rhythm in the music of the American Indian ("Annales XX Congress Internacional de Americanistas" Rio de Janeiro, 1924, p. 85 ff.)

375. — Study of Tule Indian music ("Exploration and Fieldwork Smithsonian Inst. in 1924", p. 115 ff.), 1925.

376. — Music of the Tule Indians of Panama ("Smithsonian Miscellaneous
Ramayana ('Indian Culture' IV, p. 447 ff.), 1937.
418. DIRR, A., 419. DITTMER, KUNZ,
421. DIXON, ROLAND B., 422. DJORDJEVIC, VLADIMIR R.,
423. --
420. --
426. --
424. --
425. --
427. -- 55 Serbian folkdance melodies
436. DUCHESNE-GUILLEMIN, MARCELLE,
435. DRIVER, HAROLD E.,
437. DURIYANGA, PHRA CHEN,
432a. --
429a. --
430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
432. --
429a. --
430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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429a. --
430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
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55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
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55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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429a. --
430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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429a. --
430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
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55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
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55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
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55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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429a. --
430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
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429a. --
430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
428. DJOUDJEFF, STOYAN,
427. --
55 Serbian folkdance melodies
432. --
429a. --
430. DONOSTIA, FATHER JOSE ANTONIO DE,
429. DODGE, ERNEST, and EDWIN T. BREWSTER,
457. — The Basis of Music (Publ. of id., 1877).
458. — Pronunciation for Singers (Publ. of id., 1877).
459. — Speech in Song (Publ. of id., 1878).
460. — The History of Musical Pitch (1880')
464. — Folksongs of Chhattisgarh (1946).
469. Emshemer, Ernst, Drei Tanzgesänge der Akamba ('Ethnos' 1937).
470. — Über das Vorkommen und die Anwendungsart der Maul trommel in Sibirien und Zentralasien ('Ethnos' 1941, p. 109 ff.).
471. — The Music of the Mongols. Music of Eastern Mongolia ('Reports from the scientific expedition to the NW provinces of China under the leadership of Dr. Sven Hedin', publ. 21, p. 69 ff.), Stockholm, 1943.
472. — Musikethnographische Bibliographie der nicht slavische Völker in Russland ('Acta musicologica' XV, p. 34 ff.), 1943.
473. — Zur Ideologie der lappischen Zaubertrommel ('Ethnos' 1944, p. 141 ff.).
474. — Schamanentrommel und Trommelbaum (ibid. 1946, p. 166 ff.).
475. — Eine sibirische Parallele zur lappischen Zaubertrommel (ibid. 1948, p. 17 ff.).
476. — A Lapp musical instrument (ibid. 1947, p. 86 ff.).
479. Engel, Carl, The music of the most ancient nations, particularly of the Hebrews, with special reference to recent discoveries in Western Asia and in Egypt (London, 1864).
486. — La musique des Espaimaux-Caribous ('Bull. of the Soc. neuchâteloise de Géographie' 1948, p. 1 ff.).
492. Fara, Giulio, Su uno strumento musicale sardo (Turino, 1913).
495. — The Arab Influence on Music in the Western Sudan, including References to Modern Jazz ('Musical Standard' N.S. XXIV, p. 158 ff.), 1924.
497. — Byzantine Musical Instruments in...
the Ninth Century ('Journal of the Royal Asiatic Soc.' 1925, p. 299 ff.).


502. — The Canon and Eschatuel of the Arabs ('Journal of the Royal Asiatic Soc.' 1926, p. 239 ff.).


506. — Greek Theorists of Music in Arabic Translation ('Isis' XIV, p. 325 ff.), 1930.


508. — Studies in Oriental musical Instruments (1st series), London, 1931, containing:
A. The Medeaval Psaltery in the Orient
B. The Origin of the Eschatuel
C. Two Eastern Organs
D. A North African Folk Instrument
E. Ninth Century Musical Instruments
F. A Note on the Mizmar and Nây
G. Meccan Musical Instruments
H. The Origin of the Arabian Lute and Rebec

509. — The Organ of the Ancients: from Eastern sources (Hebrew, Syriac and Arabic) (1931).


512. — The 'Ihsâ 'al- 'ulum' ('Journal of the R. Asiatic Soc.' 1933, p. 906 ff.).

513. — Maimonides on listening to music (ibid. 1933, p. 867 ff.).


515. — Al-Farabi's Arabic-Latin Writings on Music (Glasgow, 1934).


517. — Sa'adyah Gaon on the Influence of Music (Glasgow, 1934).

518. — Turkish Instruments of Music in the Seventeenth Century, as described in the Siyâhat Nama of Ewliya Chelebi (Glasgow, 1937).


520. — Ancient Arabian musical instruments (translation of the 'Kitab al-malâhî' by JAMES ROBSON; Notes on the instruments by FARMER), Glasgow, 1938.

521. — Studies in Oriental musical instruments (2nd series), Glasgow, 1939, containing:
A. Reciprocal Influences in Music 'Twixt the Far and Middle East
B. A Maghribi Work on Musical Instruments
C. An Old Moorish Lute Tutor
D. The Lute Scale of Avicenna
E. Was the Arabian and Persian Lute fretted?
F. The Instruments of Music on the Tâq-i-Bustân Bas Reliefs
G. The Structure of the Arabian and Persian Lute in the Middle Ages

522. — Early References to Music in the Western Sudan ('Journal of the Royal Asiatic Soc.' 1939, p. 506 ff.).


524. — The Sources of Arabian Music, an Annotated Bibliography (Bearsden, 1940).

525. — The Jewish Debt to Arabic Writers on Music ('Islamic Culture' XV, p. 59 ff.), 1941.

526. — Music: The Priceless Jewel (from the 'Kitab al-îqd al-farîd' of IBN 'ABBâD RABBÎBI; d. 940), Bearsden, 1942.

527. — Wechselwirkungen mittel- und ostasiatischer Musik ('Melanges offerts à ZOLTAN KODALY') p. 32 ff.), 1943.


529. — The Minstrelsy of the Arabian Nights (Bearsden, 1945).


531. — Oriental Studies, mainly musical (London, 1953):
A. What is Arabian Music?
B. Arabian Musical Instruments on a Thirteenth Century Bronze Bowl
C. Turkish Musical Instruments in the Fifteenth Century
D. The Importance of Ethnological Studies


541. **FERRAR, ASCENDO, O BUMBA-MEU-BOI.** — *Arquinos* (II/II, p. 121 ff.). Recife, 1944.


543. **FINSINGER, SOL BARUCH.** — *Musical Instruments in the Old Testament* (Baltimore, 1926).

544. **FIRFOV, GIVKO.** — *Macedonian Music* (Skopje, 1953).


Musica hispano-musulmana en Mar­
ruecos (Publ. del Inst. General Franco para la investigacion hispano-arabe, Ser. VI, No. 4), 1941.


600. Gaster, Theodor Herzl, Thespis; ritual, myth and drama in the ancient near east (New York, 1950).


602. ——- La musique byzantine (‘La Musique des origines à nos jours‘, ed. Larousse, p. 69 ff.), 1946.


605. —— Beat of the Master Drum (ibid. XXII, p. 1203 ff.), Nov. 1951.


607. —— The Indigenous Gold Coast Music (‘United Empire‘ XLII, p. 121 ff.), May-June 1952.


617. —— Towards an exact Transcription of Tone-Relations (‘Acta Musicologica‘ XXV, p. 80 ff.), 1953.


620. —— Onderzoek naar het ontstaan van de anhemionische pentatonische toonladder in verband met de spraakmelodie (‘De Wereld der Muziek‘ VIII, No. 9, p. 277 ff.), Juni 1942.

621. —— Muziek uit Oost en West (The Hague, 1942).

622. —— De cultuurhistorische beteekenis van de marimba (‘De wereld der muziek‘ IX, p. 344 ff.), 1943.

623. —— Rumbamuziek (The Hague, 1945).


626. —— Hopi Songs (ibid., V), 1908.


629. Gironcourt, Georges de, La Géographie musicale (Nancy, 1932).


631. —— Motifs de chant cambodgiens (‘Bull. de la Soc. des Etudes Indochinoises‘, N.S. XVI No. 1), 1941.

632. —— Recherches de Géographie musicale en Indochine (ibid. XVII no. 4), 1942.

633. —— Recherches de Géographie musicale au Cambodge et à Java (ibid. XIX no. 3), 1944.


637. Goloubew, Victor, Sur l’origine et la

638. Gombosi, Otto, Tonarten und Stimmungen der antiken Musik (Kopenhagen, 1939).


646. Grace, C. W., Songs and poems from Aotearoa (Wellington, 1924).

647. Gradenwitz, Peter, The Music of Israel; its Rise and Growth through 5000 years (New York, 1949).


650. Granet, Marcel, Festes et chansons anciennes de la Chine (Paris, 1919); = Festivals and Songs of Ancient China (transl. by E. D. Edwards), New York, 1932.


667. — Hsi K'ang and his poetical Essay on the Lute (Tokyo, 1941).

668. — Brief Note on the Cheng, the Chinese Small Cither ('Journal of the Soc. for
(in F. und M. THORBECKE, 'Im Hochland von Mittelkamerun' vol. III), 1919.


711. — Eine lexikalische Ordnung für die vergleichende Betrachtung von Melodien ('Archiv f. Musikw.', III), 1921.


713. — Musikalisch-dynamische Textauslese in faeroischen und faeroisch-dänischen Reigentänzen ('Festschrift-Pippin'), Helsingborg, 1924.


719. — Analytische Betrachtung eines mongolischen Liedes ('Vox' XVII), 1931.

720. — Eine Melodieprobe von den Sara-Kaba (ibid.), 1931.

721. — Strukturprobleme in primitiver Musik (Hamburg, 1931).


724. — Chirimia- und Tambor-Phonomgramme aus Nordwest-Guatemala ('Vox' XIX, p. 4 ff.), 1933.


729. — Henriques-Ureña, Pedro, Musica popular de America ('Conferencias' I), La Plata, 1930.


734. — Quelques mots sur la musique indigène en Nouvelle Guinée ('L'Ethnographie' No. 35/6, p. 51 ff.), 1938.

735. — Herskovits, Mëvliille J., Drums and Drummers in Afro-Brazilian Cult-life ('The Musical Quarterly' XXX, No. 4, p. 477 ff.), 1944.


740. — The collections of phonographic records in North America and Hawaii ('Z. f. vergl. Musikw.' I), 1933.


747. — Plain ghost dance and Great Basin
Music ('Amer. Anthrop.' XXXVII), 1935.


750a. A Comparison of Pueblo and Pima Musical Styles ('Papers read by members of the Musicol. Soc.' Annual meeting 1938, p. 69 ff.).


752. — Research in Primitive and Folk Music in the United States (1936).


754. — Investigación sobre la música primitiva y folklorica en los Estados Unidos ('Boletin Latino-Americano de Musica' V, p. 393 ff.), 1941.


760. — HEYMANN, Mrs. ALFRED, La guimbarde ('Revue musicale' 1923), p. 236 ff.


762. — La trompette dans l'Egypte ancienne (Cairo, 1945).


764. — Terminologie arabe des instruments de musique (Cairo, 1947).


769. — Music under the Pharaohs (Cairo, 1949).

770. — L'état actuel des recherches musicologiques en Egypte ('Comm. au IVième Congrès de la Soc. Intern. de Musicologie, Bâle 1949').

771. — En marge d'une publication par Dr. Hilde Zaloscher ('La Semaine Egyptienne' XXXIII), Jan. 1949.

772. — La cliquette, instrument de percussion de l'époque cotpe ('Bull. de la Soc. d'Archéol. cotpe' XIII), Cairo, 1950.


779. — Abridged of the histoire de la musique en Egypte (transl. in Spanish) ('Boletin cultural, Departamento de la Prensa, Cairo'), Cairo, 1950.

780. — Abridged of the histoire de la musique en Egypte (transl. in English) (Cairo, 1950).

781. — id. transl. in English (Cairo, 1950).

782. — Quelques observations sur la musique liturgique des Coptes (Communication au Congrès de Musique Sacrée, Rome 1950).


826. -- Ueber den gegenwärtigen Stand der vergleichenden Musikwissenschaft ("Kongressbericht der Intern. Musikges., Basel 1906").


835. -- Wanyamwezi-Gesänge ('Anthropos' IV), 1909.


841. HORNBOSTEL, ERICH M. VON, Ueber ein akustisches Kriterium für Kulturzusammenhänge ('Z. f. Ethnologie' 1911, p. 601 ff.).


850. -- Melodie und Skala ('Jahrbuch Peters' 1913", p. 11 ff.).


853. — Bemerkungen über einige Lieder aus Bougainville (in FRIZZI, Ein Beitrag zur Ethnologie von Bougainville und Buka, 1914).


855. — *Musik und Musikinstrumente* (Deutsches Kolonial-Lexikon' vol. II), 1919.

856. — First communication about the Theory of blown fifths ('Anthropos' XIV-VX, p. 569 ff.), 1919.


859. — Musikalischer Exotismus ('Melos' 1921, fasc. 9).


868. — *Die Musik der Semai auf Malakka* ('Anthropos' XXI, p. 277), 1926.


871. — *American Negro Songs* (review), ('The Intern. Review of Missions' XV, No. 60), 1926.

872. — Laut und Sinn ('Festschrift-MENHOFF'), 1927.


874. — Ethnologisches zu Jazz ('Melos' VI), 1927.


878. — Musik des Orins (Commentary to an album of exotic records, edited by CARL LINDBRÖM A.G.), 1928.


880. — Tonart und Ethos ('Festschrift-JOHANNES WOLF') p. 73 ff.), 1929.


882. — Gestaltpsychologisches zur Stilkrise ('Festschrift-GUIDO ADLER'), 1930.


890. — Review of P. G. HARRIS, 'Notes on Drums and Musical Instruments seen in


900. — Phonographierte afrikanische Mehrstimmigkeit (ibid. III, p. 120 ff.), 1950.


903. Howard, Albert H., The aulos or tibia ('Harvard Studies of Philology' IV), 1893.


906. — Man, Mind and Music, Studies in the philosophy of music and in the relations of the art to anthropology, psychology and sociology (London, 1948).


911. — Musique persane (in Lavignac, Hist. de la Mus.', V, p. 3065 ff.), undated (but before 1922).

912. Hubers, Father Hubert, Kleine musik­ethnologische Beiträge von der Insel Karkar in New­Guinea ('Anthropos' XXXVII, p. 122 ff.), 1942/43.


914. — Die Musik im Bismarck-Archipel (Berlin, 1938).


919. — Quelques aspects de la vie et de la musique dahoméennes (ibid. II, p. 76 ff.), 1934.


923. — Olympos, die Anfänge der griechi­schen Enharmonik ('Jahrb. der Musikbibl. Peters' 1937, p. 29 ff.).

924. — Fünf- und siebenstellige Centstafeln zur Berechnung musikalischer Intervalle (Leyden, 1951).

925. — Afghanistan ('Die Musik in Geschichte und Gegenwart' I, col. 121 ff.), 1951.


930. Huth, Arno, Die Musikinstrumente Ost­Turbestans (Diss., Berlin, 1928).

932. — Phonographierte Gesänge und Aussprachproben des Hebräischen der jemenitischen und persischen Juden (1914).
933. — Hebräisch-Orientalischer Melodien­schatz (Leipzig, 1914 and following years).
940. — Parallels between the Old-French and the Jewish Song ("Acta Musicologica" V, p. 26 ff. and VI, p. 15 ff.), 1933/34.
942. — ISAWA, SH., Collection of Koto Music (Tokyo, 1888 and 1913).
944. — IZIKOWITZ, KARL GUSTAV, Musical and other Sound-instruments of the South American Indians (Göteborg, 1927).
951. — JANUS, CAROLUS, Musici scriptores Graeci. Supplementum, melodianum reliquiae (Leipzig, 1899).
954. — L’Octoechos syrien ("Oriens Christianus" new series, III, p. 82 ff. and 277 f.).
964. — Blue Notes and Hot Rhythm (ibid. I no. 4, p. 9 ff.), 1951.
970. — JURJANS, A., Lettische Volkslieder (Riga, 1885).
970a. Kanai, Kikoku, Ryûkyû no Min’yô (Folksongs of the Ryukyu Islands) (Tokyo 1954).
970b. Karastoyanov, A., Melodiche i harmonichni osnovi na bułgarska narodna pesen (Sofia, 1950).
971b. Kashmiri Musiqi (sa, ri, ga, ma, ...)
971c. KARPELES, MAUD, and ARNOLD A. BAKE, 'letter I, NO.4, p. 13 Music Teacher’s National Ass.’ LX, p. the Illustrated Talk on Folk Music of the
972. Kate, ten, The musical bow in Formosa ('American Anthropologist' V), 1903.
978. —— The music system of the Fijians (ibid. p. 37 ff.), 1931.
979. —— The drums of Mbau (ibid., p. 219 ff.), 1934.
983. Kirby, Percival R., Oldtime chants of the Mpum­uza chiefs ('Bantu Studies’ II), 1923.
984. —— Some problems of primitive harmony and polyphony, with special re­ference to Bantu practice ('South African Journal of Science’ XXXII), 1926.
985. —— A Study of Negro harmony ('Musical Quarterly’ XVI), New York 1930.
986. —— The Gora and its Bantu successors ('Bantu Studies’ V), 1931.
988. —— The recognition and practical use of the harmonics of stretched strings by the Bantu of South Africa ('Bantu Studies’ VI), 1932.
989. —— The music and musical instruments of the Korana (ibid. p. 163 ff.), 1932.
995. —— The Musical Instruments of the Native Races of South Africa (Oxford/ London, 1934).
997. —— A further note on the Gora and its Bantu successors ('Bantu Studies’ IX), 1935.
999. —— The musical practices of the !Auni and Khomani Bushmen ('Bantu Studies’ X p. 373), 1936.
1002. —— A note on the shipalapala of the


1008. -- *KISHIBE, SHIGEO, The Ten Kinds of Music* of the T'ang Culture, Tokyo Univ.' No. I), 1953.

1009. -- *Die volkstümliche Quer­pfife* ('Das Deutsche Volkslied' XXV), 1923.

1010. -- *Emigration of Musicians from Central Asia to China and Diffusion of Western Music in China* (Annales of the Inst. of History, Faculty of General Culture, Tokyo Univ.) No. 1, 1953.

1011. -- *KLIER, KARL, Die volkstümliche Querpfeife* ('Das Deutsche Volkslied' XXV), 1923.

1012. -- *Volkstümliche Querflöten und die Maultrommel* ('Kongressber. der Beethoven-Zentenarfeier' Vienna, 1927, p. 375 ff.).


1014. -- *Neue Anleitung zum Schwegeln* (Vienna, 1931).

1015. -- *KLOSE, H., Musik, Tanz und Spiel in Togo* ('Globus' 89), 1911.


1076. — Music in Nias (Leyden, 1938).

1077. — In Memoriam Robert Lachmann (‘Cultureel Indië’ I, p. 298), 1939.


1082. — De waardeering van exotische muziek in den loop der eeuwen (inaugural oration) (The Hague, 1942).

1083. — Music in Flores, a Study of the vocal and instrumental Music among the Tribes living in Flores (Leyden, 1942).


1085. — Een en ander over de muziek en den dans op de Kei-eilanden (Public. LXIV of the Royal Tropical Institute, Amsterdam), 1945.

1086. — Het lot der Javaansche gamelans (‘Indonesia’ 8th Sept. 1945).


1091. — Walter Spies als musicus (‘Cultureel Indië’ VIII, p. 25 ff.), 1946.


1095. — A hypothesis about the origin of the gong (‘Ethis’ 1947, p. 79 ff. and 147).


1098. — The cultural background of Indonesian Music (Publ. LXXXII of the R. Tropical Inst.; Amsterdam), 1949.


1101. — Metre, Rhythm and Multipart Music (Leyden, 1950).


1104. — In Memoriam Dr. Ernest Diamant (‘Mens en Melodie’ VII, p. 60 ff.), 1952.


1107. — Begdja the gamelan boy, a Story of the Isle of Java with musical illustrations by the Study Group for Gamelan Music ‘Babar Layar’ (L. P. record No. 00165 L, made by Philips), 1953.


1112. — Cultural Relations between the Balkans and Indonesia (Publ. CVII of the Royal Tropical Inst., Amsterdam), 1954.


1146. — *Die Musik Ostasiens* (‘Faust’, vol. 1922, fasc. 8, p. 26 ff.).

1147. — *Der Orient in der ältesten abendländischen Musikgeschichte* (‘Ber. des Forschungsinstitutes für Osten und Orient’ III).


1156. — *Vergleichende Kunst- und Musikwissenschaft* (ibid. vol. 201), 1925.


1165. — *Die Musik der Inkas* (‘Der Zuschauer’ 1925/26, fasc. 8, p. 6 ff.).


1168. — *Die physiologischen Urtypen der musikalischen Formen* (‘Wiener Musikwissenschaft’ LXXVII, col. 15 ff.), 1927.


1170. — *Kaukasische Volksgeäsänge* (ibid. IV, p. 43 ff.), 1928.


1175. — *Zur aussereuropäischen Mehrstimmigkeit* (Beethoven Festival, Vienna 1927; Kongressbericht, p. 321 ff.).


1177. — *Die Weise vom Löwen und der pythische Nomos* (‘Festschrift-JOHANNES WOLF’, p. 97 ff.), 1929.

1178. — *Musik des Orient’s* (Breslau, Jedermann’s Bücherei, 1929).


1190. — LALOY, Louis, Musique et danses cam­ bodgiennes (‘Mercure Musical’ 1906, p. 98 ff.).


1192. — La musique chinoise (Paris, 1910).


1194. — La Musique et les philosophes chinois (‘Revue Musicale’ VI, p. 132 ff.), 1925.


1196. — Essais de notation musicale chez les arabes et les persans (‘Etudes archéologi­ques, linguistiques et historiques dédicées à M. le Dr. C. Leemans’, p. 315 ff.), Leyden, 1885.


1198. — Over onze kennis der Javaanse muziek (Introduction to J. Groneman, ‘De gamelan te Jogjakarta’), 1890.


1201. — LAUNIS, ARMAS, Lappische Juhwosme­lodien (Helsinki, 1908).

1202. — Ueber Art, Entstehung und Ver­breitung der estnnisch-finischen Runenmelodien (Helsinki, 1910).

1203. — Runen (‘Suomen Kansan Sävel­miit’ VI), 1910 and 1930.

1204. — and — Los instrumentos music­cales aborigenes y criollos de la Argentina (Buenos Aires, undated).


1209. — Ueber die Musik der Smith Sund Eskimos und ihre Verwandtschaft mit der Musik der amerikanischen Indianer (Copenhagen, 1925).


1212. — LEROUX, CH., ‘La musique classique japonaise’ (1911).


1216. — LEVY, J., Die Signalinstrumente in den altfranzösischen Te:ten (Diss., Halle, 1910).

1217. — LICHTVELD, Lou, De muziek der Rood­huiden (‘Leven en Werken’ IV, N.S., No. 1, p. 3 ff.), Januari 1940.
1223. _LINDBLOM, GERHARD_.
1224. _LINDEN, L. M._.
1226. _LIU, CHUNGSHEE HSIEN._
1227. _LLOYD, LLOYD S._
1229. _LODS, ADOLPHE._
1230. _LONG, KENNETH R._
1230a. _LONGMORE, L._
1231. _LOORITS, OSKAR, Volkslieder der Liven_ ('Opetatud Eesti Seltsi toimetus' XVIII), Tartu, 1936.
1232a. _LORD, ALBERT B._
1233. — _La musique et la médecine_ ('Polyphonie' 1950, Nos. 7–8, p. 40 ff.).
1239. _LODS, ADOLPHE, Les idées des anciens Irlandais sur la musique_ ('Journal de Psychologie' 1926).
1241. _LOMAX, JOHN A._
1244. _MACLELLAN, K., Frédéric, La musique en Arménie_ (Paris, 1917).
1245. _MADEME, ADÈLE, Ibo village music_ ('African Affairs' LII, Jan. 1953, p. 63 ff.).
1247. _— Les tam-tams du Congo Belge_ (Bruxelles/And, 1912).
1248. — _La sanza du Congo Belge_ ('Congo, revue générale de la colonie belge', 1921).
1251. _MAHLER, ELSA, Altrussische Volkslieder aus dem Pécoryland_ (Basel, 1951).
1252. — _Music and musical instruments among some Brazilian tribes_
The influence of music in world history (ibid. XII, p. 196 ff.), 1925.

Music in Chinese fairytale and legend (ibid. VIII, p. 528 ff.), 1922.


1273. MARX, B. L., The Hawaiian mele from a musical standpoint (‘Hawaiian Annual’ 1904, p. 154 ff).

1274. MASU, GENJIRO, The place of folk music in the cultural life of the present day in Japan (‘Journal of the Intern. Folk Music Council’ V, p. 64 ff.), 1953.


1277. MATOS, MANUEL GARCIA, Lirica popular de la Alta Extremadura (fornikagey coreographe y costumbrista) (436 documentos musicales ineditos), Madrid, undated (after 1931).


1279. — Cancionero popular de la Provincia de Madrid, vol. I. Edicion critica por MARIUS SCHNEIDER y JOSÉ ROMEU FIGUERAS (Barcelona/Madrid, 1951).


1282. MAYER-SERRA, OTTO, Panorama de la musica mexicana (Mexico, 1941).


1290. — *Musical Exploration in Bali* ('Musical America' LX, No. 3 p. 12, 263), 10 Febr. 1940.
1291. — The Music of Bali, recorded by Colin McPhee, Benjamin Britten and Georges Barrère (Schirmer's Library of recorded music' No. 17), New York, 1940.
1292. — Balinese Ceremonial Music, transcribed for two pianos, four-hands (New York, 1940).
1295. — *A club of small Men* (1947).
1301. — Los teponazlis en las civilizaciones precortesianas (ibid.), 1933.
1322. Montandon, Georges, *Généalogie des instruments de musique et les cycles de
1361a. — **Stylistic change in folk music** ("Southern Folklore Quarterly" XVII, p. 216 ff.), 1953.
1364. **NGUYEN VAN HUIEN,** "Les Chants alternés des garçons et des filles en Annam" (Paris, 1934).
1366. **NORLIND, TOBIAS,** "Bidrag till Mästtrumpets historia" (ibid. XVI, p. 48 ff.), 1922.
1367. — Bidrag till kantelears historia (1923).
1369. — **Lyra und Kithara in der Antike** (ibid. XVI, 1934).
1370. — **Beiträge zur chinesischen Instrumentengeschichte** (ibid. XV, p. 48 ff.), 1933.
1374. — Musikinstrumentens Historia (Stockholm, 1941).
1377. **OBRESCHKOFF, CHRISTO,** "Das bulgarische Volkslied" (Berner Veröff. z. Musikforschung' IX).
1378a. **OLIVER, D. L.,** "The relation between slit-gongs and known in a Solomon Islands culture" (in Kroebber, 'Anthropological Society Papers' (Berkeley Nos. 8 and 9, p. 69 ff.), 1953.
1379. **Oost, P. J. Van,** "Chansons populaires de la région des Otros" ("Anthropos" VII), 1912.
1380. — La musique chez les Mongols des Urdus (ibid., X and XI), 1915/16.
1381. — **Chansons populaires chinoises** (1907).
1382. — Recueil de chansons mongoles ("Anthropos" III, p. 219 ff.), 1908.
1384. **Ortiz, Fernando,** Les Instrumentos de la Música Afro-cubana. vol. I. Los Instrumentos Anatómicos y los Palos Percusivos; vol. II. Los Instrumentos Sacuditivos, los Frotativos y los Hierros; vol. III, Los tambores xilífonicos y los membranosónos abiertos (Habana 1952).
1385. **Osa, Sigbjorn B.,** Hardang Fela, the Hardanger Fiddle (Oslo, 1952).
1391. **Panum, HORTENSE,** The stringed instruments of the Middle Ages (London, undated, but published after 1921).
1391a. — Middelalderens Musikinstrumenter ("Nordisk Kultur. Musik og Musikinstrumenter", 1934, p. 50 ff.).
1392. **PATERSON, A.,** Old Lithuanian Songs (Kaunas, 1939).
1394. **Paye, EIN AM AMAZONENSTROM GEBRÜDCHER TROMMELAPPARAT** ("Z. f. Ethnologie" XXXV), 1903.
Karnatic Music (Univ. Madras, 1938).

Ramon Y Rivera, Luis Felipe, Polirritma y melódica independiente (‘Archivos Venezolanos de Folklore’ I), Caracas, 1932.


Just Intonation in Hindusthani Raga Singing (ibid. XX, p. 89 ff.), 1949.

Points of Affinity between Hindusthani and Carnatic Music (ibid. XXI, p. 73 ff.), 1950.

Ragas in Hindusthani Music (ibid. XXII, p. 97 ff.), 1951.

Raga Expression in Hindusthani Music (ibid. XXIII, p. 56 ff.), 1952.

Raudkats, A., Estnische Volkstänze und Kinderspiele (Tartu, 1926–27).

Read, F. W., A new interpretation of the Phaestos disk: the oldest music in the world? (‘Quarterly Statement, a journal of Palestine Research and Discovery’ Jan. 1921, p. 29 ff.).

Reese, Gustave, Music in the Middle Ages (New York, 1940).

Reinach, Théodore, La musique Grecque (Paris, 1926).


Reinhard, Kurt, Die Musik Birnur (Würzburg-Aumühle, 1939).

Die Musik exotischer Völker (Berlin, 1951).


Tonmessungen an fünf ostafrikanischen Klöppern (‘Die Musikforschung’ IV, p. 366 ff.), 1951.


Einführung in die Musikpsychologie (Bern, 1946).


Ribera y Tarago, J., Music in Ancient Arabia and Spain (New York, 1950).

Richard, Mrs. Timothy, Paper on Chinese Music (Shanghai, 1899).

Riegler, Emil, Studien über das rumänische Volkslied (1927).

Das rumänische Volkslied (Berlin, 1943).


Chakwena Songs of Zuñi and Laguna (ibid. XXXVI), 1923.

Folksongs of Jamaica, collected by Martha Warren Beckwith, with music recorded by Helen H. Roberts (Poughkeepsie, New York, Vassar College, 1922).

Christmas mumming in Jamaica by Martha Warren Beckwith, with music recorded by Helen H. Roberts (Poughkeepsie, New York, Vassar College, 1923).


1475. — Possible survivals of African song in Jamaica ('Musical Quarterly' XII), 1926.

1476. — Variation in melodic renditions as an indicator of emotion ('Psychological Review' XXXIV), 1927.


1478. — Jamaica Folktone, collected by Martha Warren Beckwith, with music recorded by Helen H. Roberts (New York, 1928).

1479. — How the Hawaiian instrument, the Ukulele, received its name ('Journal of the Polynesian Soc.') XL, p. 175 ff.), 1931.


1481. — Melodic composition and scale foundations in primitive music ('Amer. Anthrop.' N.S. XXXIV, p. 79 ff.), 1932.

1482. — Form in Primitive Music (New York, 1933).

1483. — Modern Tahitian popular songs or ute, sung by Armstrong Speyr (Inst. of Human Relations, Yale Univ., Publ. in Anthrop., 1932).


1486. — Musical areas in aboriginal North America ('Yale Univ., Publ. in Anthrop.' XII), 1936.


1490. — Robson, James, Ancient Arabian musical instruments as described by Al-Mufaddal ibn Salama (9th century), Glasgow, 1938.


1493. — Romualdez, Norberto, Filipinos Musical Instruments and Airs of long ago (Manilla, 1931).


1499. — and Yafil, E. N., Répertoire de musique arabe et maure (1904).


1505. — On Transformation of Shayas by Alteration of Sruti and Consequent Importance of 32 Melakartas as specially suited to Musical Composition (ibid. XXIV, p. 70 ff.), 1953.

1506. — Rue, Jan la, Native Music on Okinawa ('The Musical Quarterly' XXXII, p. 157 ff.), 1946.


1510. — Runge, Paul, Die Notation des Soma-
natha (‘Monatshefte f. Musikgeschichte’ XXXVI, p. 56 ff.), 1904.

1513 — Reallexikon der Musikinstrumente (Berlin, 1913).
1514. — Die Musikinstrumente (Breslau, Jedermann’s Bücherei, 1923).
1517. — Die Maultrommel (‘Z. f. Ethnologie’ 1917, p. 185 ff.).
1518. — Die Musikinstrumente Indiens und Assams (München, 1917).
1524. — Handbuch der Musikinstrumentenkunde (Berlin, 1920).
1525. — Altägyptische Musikinstrumente (‘Der alte Orient’ XXI), 1920.
1528. — Musik des Altertums (Leipzig, 1924).


1537. — Geist und Werden der Musikinstrumente (Berlin, 1929).
1543. — Eine Weltgeschichte des Tanzes (Berlin, 1933).
1546. — The History of Musical Instruments (New York, 1940).
1548. — The Road to Major (‘The Musical Quarterly’ XXIX), 1943.


1558. Saldivar, Gabriel, Historia de la musica en Mexico (Mexico, 1934).


1561. Sambamurthy, P., Elements of Karnatic Music (Madras, 1929).

1562. — South Indian Folk Music ('Indian Art and Letters' VI, p. 32 ff.), 1932.

1563. — The teaching of music ('The Journal of the Music Academy, Madras' XI, p. 48 ff.), 1940.


1565. — Comparative Music, a reply (ibid. XIII, p. 87 ff.), 1942.


1567. — The Flute; a Study containing a short account of its History, Antiquity and Laws together with full Instructions for Practice (Madras, 2/1943).

1568. — The origin of some ragas ('The Journal of the Music Academy, Madras' XVI, p. 73 ff.), 1945.

1569. — Survival of the useful and the beautiful in the realm of music (ibid. XVII, p. 80 ff.), 1946.


1571. — Madras as a Seat of Music Learning (Madras, 1949).

1572. — Syama Sastri and other famous composers (Madras, 1949).


1574. Sánchez de Fuentes, Eduardo, El folklore en la musica cubana (Havana, 1923).

1575. — Influencia de los ritmos africanos en nuestro cancionero (Havana, 1927).

1576. — La cancion cubana (Havana, 1930).


1577. Sandvik, O. M., Norsk Folkemusik, saerlig Østlandsmusikken (1921).


1579. — Østerralmusikken (Oslo, 1943).

1580. — Folkemusikk i Gudbrandsdalen (Oslo, 1948).


1588. Saville, M. H., A primitive Maya musical instrument ('American Anthropologist' X No. 8), 1897.

1589. — The musical bow in ancient Mexico (ibid. XI No. 9), 1898.


1594. Schad, Gustav, Musik und Musikausdrucke in der mittelenglischen Literatur (Diss., Giessen, 1911).


1597. Schaeffner, André, Notes sur la musique des Afro-américains ('Le Méne strell' 25/6–6/8, 1926).

1599. — Note sur la filiation des instruments à cordes ('Mélanges de Muséologie offerts à M. Lionel de la Laurencie'), Paris, 1933.

1600. — Notes sur la musique des populations du Cameroun septentrional ('Minotaure' no. 2, p. 65 ff.), 1933.

1601. — Parmi les origines corporelles des instruments de musique ('Le Ménestrel' XCVI, p. 65 ff., 77 ff. and 89 ff.), 1934.

*1602. — Origines des instruments de musique (Paris, 1936).


1604. — Musique primitive ou exotique et musique moderne d’Occident ('Mélanges offerts à Zoltan Kodály', p. 213 ff.), 1943.


1607. — La musique noire d’Afrique (ibid., p. 460 ff.), 1946.


1610a. — Musique populaire et art musical ('Journal de Psychologie normale et pathologique'. Jan./June 1951, p. 237 ff.).


1612. — Schiffer, Brigitte, Die Oase Siwa und ihre Musik (Berlin, 1936).


1615. — Schlager, Ernst, Bali ('Die Musik in Geschichte und Gegenwart' I, col. 1109 ff.), 1950.


1657. — Contribución a la música del Matto Grosso (‘Anuario Musical’ VII), 1952.
1663. SCHOLE, H., Tonpsychologie und Musikästhetik (1930).
1672. SEEWALD, OTTO, Beiträge zur Kenntnis der steinzeitlichen Musikinstrumente Europas (Vienna, 1934).


1687a. — *Fuchalice sviraljke od hore svjeteg drveta* (Zagreb, 1932).

1688. — *Sviralkje s udarnim ješćkom* (Zagreb, 1937).

1689. — *Summary in German of the foregoing important publication in *'Bull. Intern. de l'Acad. Yougoslave des Sciences et des Beaux Arts' IX, p. 155–184, (1937).*

1690. — *Hrvatske Narodna Glazba* (Zagreb, 1942).


1699. Snowden, A. D., *Some Common Musical Instruments found among the Native Tribes of Southern Rhodesia* ('Nada, the Southern Rhodesia Native Affairs Dept. Annual' No. 16, p. 72 ff.), Salisbury, Rhod., 1939.


Negara Gianjar ('Djawa' XVI, p. 51 ff.), 1936.


1713. Stannus, Hugh, A rare type of musical instrument from Central Africa ('Man' XX 3, No. 20), 1920.


1720. Stoil, Vassil, Hypothèse sur l'origine bulgare de la diaphonie (Sofia, 1925).

1721. — Bulgarska narodna muzika: metrika i ritmika (Sofia, 1927).

1722. — Narodni pesni ot Timok do Vita (Sofia, 1928).

1723. — Svirka Dvoyanka ('Bull. du Musée Nat. d'Ethnogr.' XII, p. 86 ff.), Sofia, 1936.


1730. — Konsonanz und Dissonanz ('Beiträge zur Akustik und Musikwissenschaft', fasc. 1), 1898.

1731. — Nauertageblätter für die Reinheit konsonanter Intervalle (in collab. with M. Mayer) ('Z. f. Psychol. und Physiol. der Sinnesorgane' XVIII), 1898.

1732. — Tonpsychologie, vol. I (1893); vol. II (1890).

1733. — Über Vergleichtungen von Tonabständen ('Z. f. Psychol. und Physiol. der Sinnesorgane'), 1890.


1737. — Konsonanz und Dissonanz ('Beiträge zur Akustik und Musikwissenschaft', fasc. 1), 1898.


1741. — Konsonanz und Dissonanz ('Beiträge zur Akustik und Musikwissenschaft', fasc. 1), 1898.

1742. — Maassbestimmungen über die Reinheit konsonanter Intervalle (in collab. with M. Mayer) ('Z. f. Psychol. und Physiol. der Sinnesorgane' XVIII), 1898.


larged: nebst Bemerkungen über Wohlklang und Wohlgfellungen ("Z. f. Psychol. u. Physiol. der Sinnesorgane" XVIII), 1911.


1749. — *Die Anfänge der Musik* (Leipzig, 1911).

1750. — *Singen und Sprechen* ("Z. f. Psychol. u. Physiol. der Sinnesorgane" XCVI), 1923.


1754. — *Swarup, Rai Bahadur Bishan, Theory of Indian Music* (Swarup Brothers, Mai than, Agra, 1933).

1755. — *Sykes, M.*, *Notes on Musical Instruments in Khorasan* ("Man" IX), 1909.


1758. — *A primitiv dallamosság: a hanglejtéstől az otthonáigóga (Primitive Melodik: vom Tonfall zur Pentatonie)* (in "Mélanges offerts à ZOLTAN KODÁLY a l'occasion de son 60ieme anniversaire") (Leipzig, 1943).


1760. — *Tagore, Surindro Mohun, Short Notices of Hindu Musical Instruments* (Calcutta, 1897).

1761. — *Hindu Music from various authors* (Calcutta, 1932).

1762. — *Taig, Th.*, *Rhythm and Metre* (1930).


1771. — *Tannery, P.*, *L'invention de l'hydraulis* ("Revue des Études grecques" XXI), 1908.


1773. — *Tate, H.*, *Australian aboriginal music* ("Canon" V, p. 249 ff.), 1951.


1775. — *Thalbitzer, William, and Hjalmar Thürén, La musique chez les Esquimaux* ("Mercure musical", 1911).

1775a. — *Eskimomusik und Dichtkunst in Grönland* ("Anthropos" VI, p. 485 ff.), 1911.

1776. — *Légendes et chants esquimaux du Groenland* (1929).

1777. — *Eskimo-Lieder von Oost-Groenland* (Santpoort, 1933).


1785. — *Tirén, K.*, *Die lappische Volksmusik*
*1797. TORMER, EDUARDO MARTINEZ, Bibliographie du folklore musical Espagnol (Art populaire II, p. 159 ff.), 1931.
1798. TRACEY, HUGH T., Native music and the church ('Native Teacher's Journal' XI, p. 110 ff.), 1931/32.
1799. Chief above and Chief below, a musical play for Africans (1944).
1801. Phonographische Aufnahmen in irischer Sprache und einiger Musikinstrumente in Irland und Wales (1908).
1802. Phonographische Aufnahmen in der bretonischen Sprache und zweier Musikinstrumente in der Bretagne (1908).
1803. Baschische Sprach- und Musikaufnahmen (1914).
1814. Untersuchungen über die ob-ugrischen Melodien (Helsinki, 1939).
1817. Mordvinische Melodien (Helsinki, 1948).
1820. VALLE, FLAUSING RODRIGUES, Elementos de folklore musical brasileiro (Sao Paulo, 1936).
1821. Das Zupfinstrument gusli bei den Wolgävölkern (‘Suomalaish Ugrilaisen Seuran Toimituksia’ LVIII, p. 303 ff.), Helsinki, 1928.
1822. Y. Vainamoisen kantele (‘Kantele und Streichleier (‘Suomen Kansan Sävelmiä’), 1928.
1823. Varnoux, Jean, Vietnamese Music


1831. VERDEY, R. PALIKAROVA, La musique byzantine chez les Bulgares et les Russes du IXe au XIVe siècle ('Monumenta Musicae Byzantinae' III), 1953.

1832. VERNEY, FREDERICK WILLIAM, Notes on Siamese Musical Instruments (London, 1885).

1833. VETTER, WALTER, Ethos ('Die Musik in Geschichte und Gegenwart' III, col. 1582 vv.), 1954.


1836. VIROLLAUD, CH., and FERNAND PELLAUD, Le langage tambourine des Congolais ('Royal Musical Association' 1903-'04).


1838. WANG, BETTY, Folk Songs as a Means of Social Control ('Sociology and Social Research' XIX No. 1, p. 64 ff.), Sept./Oct. 1934.

1839. WANG, En SHAO, Chinesische Kammermusik einst und jetzt ('Musica' IV, p. 131 ff.), 1950.


1864. — Early Musical Scales in the Light of the Twentieth Century ('Papers of the Michigan Acad. of Science, Arts and Letters' IV, p. 43 ff.), 1924.


1867. — Die Musikinstrumente des alten Orients (Münster, 1950).


1869. Weiss, Josef, Die musikalischen Instrumente des alten Testaments (Graz, 1895).


1873. Wellesz, Egon, Byzantinische Musik (Breslau, Jedermann's Bücherei, 1927).


1875. — Eastern Elements in Western Chant (1947).


1884. — Chinesische Musik (Frankfurt a/M., China-Institut, 1927).


1886. Wilson, E. W., Gourd in folk music ('Southern Folklore Quarterly' XV, p. 188 ff.), 1951.

1887. Winnington-Ingram, R. P., Mode in Greek music (Cambridge, 1936).

**APPENDIX**

In addition to the records mentioned on p. 30 ff., there have been issued

a) by the Folkways Record & Service Corporation at the end of 1954 many others, among which:

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<th>Record</th>
<th>Title</th>
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<tbody>
<tr>
<td>P. 502</td>
<td>African and Afro-American drums (tribes: Watutsi, Baya, Yoruba; other regions: Madagascar, Haiti, Virgin Islands, Puerto Rico, Jamaica, Cuba, Bahamas, Surinam, Brazil, Trinidad) (notes by HAROLD COURLANDER and MIECZYSLAW KOLinski)</td>
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<tr>
<td>P. 503</td>
<td>Folk music of Greece (rec. by JAMES A. NOTOPoulos)</td>
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<tr>
<td>FP. 12</td>
<td>Chinese classic instrumental music</td>
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<tr>
<td>FP. 17</td>
<td>Scottish bagpipe tunes, played by Pipe Major JOHN MACLEllAN</td>
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<tr>
<td>FP. 805</td>
<td>Songs and dances of Yugoslavia (Bosnia, Hercegovina, Serbia, Macedonia, Croatia, Montenegro, Slovenia) (instr. a.o.: gusle, tapan, zurla, irula, kaval) (rec. and notes by LAURA BOLTON)</td>
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<td>FP. 806</td>
<td>Songs and dances of Armenia</td>
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<td>FP. 811</td>
<td>Haitian folk songs</td>
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<td>FP. 814</td>
<td>Songs and dances of Greece</td>
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<td>FP. 820</td>
<td>Russian folksongs</td>
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<tr>
<td>FP. 830</td>
<td>Songs and dances of the Basques (instr. a.o.: txistu and tun-tun)</td>
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</table>

b) by 'His Master’s Voice', among many others, some fine recordings from India, of which I mention:
N. 5961.  (instr.: *tabla, tampura, sarangi*, and (?) *kattyavana vina* (xylophone); performer: 
  *Manohar Barve*);
N. 6982.  (instr.: *vichitra vina, tabla*; performer: *Abdul Aziz Khan*);
N. 14564. (instr.: *shahnai, duggi*; performer: *Bismillah*);
N. 16764. (instr.: *sarode, tabla*; performer: *Ali Akbar Khan*);
N. 16781. (instr.: *sarode, tabla*; performer: *id.*);
N. 18219. (Tamil; instr.: violin, *mrdangga*; singer: *Sm. N. C. Vasanthakokilam*);
N. 20027. (instr.: *sitar*; performer: *Pandit Ravi Shankar*);
HT. 83. (instr.: *sarangi, tabla*; singer: *Bai Kesarbai Kerkar*);

by the World Collection of Recorded Folk Music (editor: Prof. *Constantin Brailoiu*) in 
collaboration with Unesco:

three more albums with music resp. from:

(III) Tuareg, Ireland, Turkey (Anatolia), Sardinia, Hindostan (Benares) (instr. a.o.: bagpipe, 
  *kaival, sas, launeddas*);

(IV) Fulah (Peuls), Rumania, Flanders, Esthonia, Bosnia (instr. a.o.: flute (*sazakuat*), 
  musical bow, carillon, jaw’s harp, bagpipe, bowed bow, *gusle, dvojnice, tamburiza*);

(V) Formosa (Bunun, Tsarisen, Sazek), England (Somerset, Oxfordshire, Northumberland, 
  Norfolk, Wales), Bulgaria, Ukraine, Russia (distr. Pskoff) (instr. a.o. beakflute (flute à 
  bec), bagpipe, *gadulka*).
Since the identity of the above portrait was uncertain, an appeal has been made to one of Ellis's younger contemporaries, namely Bernard Shaw. I believe I may rightly reproduce his testimony in facsimile.
Fig. 4. Tobias Norlind (1879–1948)

Fig. 5. Johann Sebastian Brandts Buys (1879–1939) (Courtesy Mr. Jerome Dessain)

Fig. 6. A. H. Fox Strangways (1859–1948) (Courtesy Mr. Jerome Dessain)
Fig. 7. Henry Balfour (1863–1939)  
(Courtesy Messrs. Lafayette Ltd., London)

Fig. 8. Béla Bartók (1881–1945)

Fig. 9. Zoltán Kodály (b. 1882)

Fig. 10. Frances Densmore
Fig. 11. Erich M. von Hornbostel (1877–1935) (l.) with Jacques Handschin (b. 1886)

Fig. 12. Constantin Brailoiu (b. 1893) (l.) with Léon Algazi. At the background, from left to right: Zygmunt Estreicher, Claudie Marcel-Dubois and Samuel Baud-Bovy

Fig. 13. Jaap Kunst (b. 1891)

Fig. 14. André Schaeffner (b. 1895)
Fig. 15. A. O. Väisänlen (b. 1890)

Fig. 16. Robert Lach (b. 1874)

Fig. 17. Erich M. von Hornbostel (1877–1935)

Fig. 18. Marius Barbeau (b. 1883)
Fig. 19. Robert Lachmann (1892–1939)

Fig. 20. Percival R. Kirby (b. 1888)

Fig. 21. Mieczyslaw Kolinski (b. 1901)

Fig. 22. Arnold A. Bake (b. 1899)
Fig. 23. Hugh T. Tracey (b. 1903)

Fig. 24. Marius Schneider (b. 1903)

Fig. 25. Ernst Emsheimer (b. 1904)

Fig. 26. Edith Gerson-Kiwi
Fig. 32. Buttock-'music' on a ancient Greek vase

Fig. 33. Ancient Egyptian orchestra

Fig. 34. North Indian bin (after Hipkins)
Fig. 35. Bamboo zithers from Flores (A = full-tube, B and C = half-tube instruments)

Fig. 36. Raft-zither from Hindostan (after Solvijns)

Fig. 37. Prehistoric lu(n)komba; Drakensberg (Basutoland) rock-painting (after Stow). (Courtesy Mr. P. R. Kirby and the Trustees of the South African Museum)

Fig. 38. Modern lu(n)komba

Fig. 39. Musical bow from South Africa (after Percival R. Kirby)
Fig. 40. Javanese *kemanak*

Fig. 41. "Kemanak" of the Pangwé, West Central Africa (after von Hornbostel)

Fig. 42. *Féku* of the Atoni, Central Timor

Fig. 43. *Dunda* from Sokoto, North Nigeria

Fig. 44. Pan-pipe (Central Timor)

Fig. 45. Unconnected pan-pipes (*hoi*) (West-Flores)
Fig. 46. Monochord with scale division

Fig. 47. Dodecachord provided with 12 graduated scales, moveable bridges and tuning pegs, which can duplicate any kind of scale of known vibration numbers
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Fig. 48. The cents-table of Von Hornbostel
Fig. 49. Schematic representation of the Pélog- and Sléndro-scales, compared to the European tempered chromatic scale (II). (The pélog- and sléndro-scales (resp. I and III) are those of the Gamelan Kyahi Kanyut Mésem, Mangku Nagaran, Solo)
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